

United Microelectronics Corporation 2020 Annual Report

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UMC Annual Report Information Can Be Accessed from the Following Websites:

<https://www.umc.com>

<https://mops.twse.com.tw>



Annual Report

2020

TSE Code: 2303

NYSE Symbol: UMC

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ADR Depository and Registrar

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General Contact : 1 (800) 990 1135
Outside the USA : 1 (651) 453 2128
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ADR Exchange Marketplace

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Ticker/Search Code: UMC

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Marketplace**

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<http://www.sgx.com>
ECB Search Code: ISIN XS1228110000

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Table of Contents

Letter to Shareholders	4	Capital Overview	99
Corporate Profile	8	100 Capital and Shares	
9 Corporate Profile and Date of Establishment		106 Issuance of Corporate Bonds	
10 Corporate Milestones		111 Preferred Shares	
Corporate Governance Report	13	112 American Depositary Receipts	
14 Corporate Organization		114 Employee Stock Option Handling Status	
16 Directors' and Managers' Information		114 Issuance of New Restricted Employee Shares	
37 Corporate Governance Practices		115 Status of New Shares Issuance in Connection with Mergers and Acquisitions	
93 Certified Public Accountant (CPA) Fee Information		115 Financing Plans and Execution Status	
93 Information of CPA Change		Operations Overview	120
93 UMC's Chairman, Presidents, Chief Financial Officer, and Managers in Charge of Its Finance and Accounting Operations Did Not Hold Any Positions in UMC's Independent Auditing Firm or Its Affiliates in the Most Recent Year		121 Business Activities	
94 Change in Shareholding of Directors, Managers and Major Shareholders Who Own 10% or More of UMC Shares		128 Overview of Market, Production, and Sales	
96 Relationship Among the Top 10 Shareholders		134 Employees	
97 Shares Held by the Company, Directors, Managers and Companies Directly or Indirectly Controlled by the Company, and the Comprehensive Shareholding Ratio Based on Combined Calculation		135 Environmental Expenditure Information	
		135 Labor Relations	
		139 Major Contracts	

Review of Financial Position, Operating Results, Risk Management 141

- 142 Financial Position
- 143 Financial Performance
- 144 Cash Flow
- 144 Major Capital Expenditures from Recent Years and Impact on Company's Finance and Business
- 144 Main Reasons and Improvement Plans for Recent Annual Reinvestment Policies and Profit or Loss, and Investment Plans for the Coming Year
- 145 Risk Management and Evaluation
- 154 Other Necessary Supplements

Social Responsibility 155

- 156 Description of Corporate Social Responsibility
- 158 About Social Charity
- 162 Environmental Protection, Safety and Health Management Instructions

Special Disclosures 168

- 169 Summary of Affiliated Enterprises
- 181 Issuance of Private Placement Securities
- 181 Acquisition or Disposal of UMC Shares by Subsidiaries
- 181 Other Necessary Supplements
- 181 Disclosures of Events Which May Have a Significant Influence on Stockholders' Equity or Share Price, in Compliance with Item 3, Paragraph 2 in Article 36 of the Securities and Exchange Law of the R.O.C.

Financial Review 182

- 183 Condensed Balance Sheets
- 185 Condensed Statements of Comprehensive Income
- 187 Financial Analysis
- 191 Audit Committee's Review Report
- 192 Financial Statements – Consolidated
- 269 Financial Statements – Parent Company

Letter to Shareholders

Dear Shareholders,

In 2020, global confirmed cases and deaths from COVID-19 continued to rise, dealing the economy a major setback and significantly impacting people's lives. UMC's management team addressed this unsteady situation by imposing corporate safety policies that met or exceeded those set forth by the government, confronting the epidemic head-on with our employees and working together to maintain normal operations and stable growth.

2020 Business Summary

After adjusting UMC's business strategy, the company has transformed into a semiconductor foundry leader focusing on specialty technologies. We accomplished this by first strengthening the company's financial structure, then expanding production capacity in a cost-competitive manner and optimizing our product portfolio. Examining the current results reveals solid performance in the areas of strategic positioning, technology, production capacity, yield, profitability and sustainable operation. UMC's 2020 revenue grew 19% over the prior year. Our foundry segment shipped a total of 8.9 million 8-inch equivalent wafers for the year, growing 24% YoY. Capacity utilization reached 97% in 2020, growing 8% YoY. Full year revenue reached NTD 176.8 billion, with 22.05% gross margin rate and 12.45% operating margin rate. Profit attributable to the parent company was NTD 29.19 billion or an earnings per share of NTD 2.42. In 2020, UMC invested NTD 12.9 billion in R&D. The cash based capex in 2020 was USD 1 billion, which was mainly invested in new R&D process equipment and production capacity expansion at Southern Taiwan Science Park Fab 12A, Xiamen Fab 12X and Suzhou Fab 8N, as well as product mix optimization across all fabs.



Advanced Technologies Development

UMC's advanced technology platforms including 14FFC (14nm FinFET Compact), 22nm ultra-low power (22ULP), 22nm ultra-low leakage (22ULL) and 28nm High Performance Compact (28HPC+) process technologies have already entered production. 28HPC+ was designed to support image signal processor (ISP) in 2020 and is undergoing an engineering upgrade for 2021. Other newly released processes in 2020 include mmWave using 55nm, 40nm and 28nm to fulfill high performance and low power product requirements for mobile devices, Internet of Things (IoT), 5G, automotive electronics and industrial radar that use mmWave.

Specialty Process Technologies Pipeline

For specialty processes, UMC's 28nm high voltage (HV) platform was the industry's first such technology to enter mass production and is being utilized for driver ICs used in high resolution organic light-emitting display (AMOLED) panels. 22nm embedded high voltage (22eHV) development is also underway and on schedule.

Our Radio Frequency Silicon On Insulator (RFSOI) technology has met the stringent requirements of all 4G/5G mobile phones for RF switches. Currently, 90nm RFSOI is in mass production with 55nm RFSOI under development. At the same time, 40nm RFSOI development has begun with the intent to capture the 5G/mmWave mega-trend. For embedded flash memory technology (eFlash), 40nm SST has been introduced into mass production, while 28nm SST development progress is in line with expectations and will fulfill the demand for IoT products. 40nm Resistive Random Access Memory (ReRAM) has entered mass production.

Development of 22nm Resistive Random Access Memory (ReRAM) and 22nm Embedded Magneto-resistive Random Access Memory (eMRAM) technologies are progressing as planned and will be designed into AI Internet of Things (AIoT) applications. In addition, we are actively investing in the development of gallium nitride (GaN) and microwave platforms to penetrate high-efficiency power component and 5G microwave component markets.

Growing Intellectual Property Portfolio

Facing intense global competition, UMC has paid special attention patents and IP protection. The overall number of patents granted to UMC has maintained steady growth. A total of 484 domestic and foreign patents were obtained in 2020, including 271 US patents, 96 ROC patents, and 117 patents from mainland China. The total number of patents granted to UMC over the years is 13,991, supporting a strong and comprehensive intellectual property portfolio that solidifies the company's manufacturing process know-how.

Corporate Governance and Sustainability

UMC adheres to the sustainable vision of “people-oriented, symbiosis with the environment, and prosperity with society.” While pursuing profitable growth, we are committed to the balanced development of the three-ESG dimensions of “environment, society, and governance” and actively follow the sustainability and development goals of the United Nations.

In 2020, UMC received many honors and recognitions from domestic and international institutions, governments and associations in sustainability and development, information disclosure, corporate governance, environmental protection, and customer service:

- Listed on the “DJSI Dow Jones Sustainability Index World Index” for 13 consecutive years
- Continuously selected as constituent stocks on the FTSE4Good Emerging Market and Taiwan Perpetual Indexes
- Received the “Taiwan Business Sustainability Report Award” for 13 consecutive years and the highest platinum award for the third time
- Achieved the top 5% in the “Corporate Governance Evaluation” for 6 consecutive years
- Received the “Green Chemistry Innovation and Application Award” from the Environmental Protection Agency for 2 consecutive years
- Won the “Second National Enterprise Environmental Protection Award-Giant Award”

The pandemic has led to different work behaviors and spurred new market demand in several areas; artificial intelligence, advanced manufacturing, 5G communications, and quantum information technology will play a vital role in the use of semiconductor technology. UMC will

continue to strengthen the company's competitive advantages, grasp new market trends and provide innovative services after the pandemic is over. We will strive to maintain the established business strategy of improving financial strength and continuous growth. In sustainability and development, UMC's core strategies include: (1) Optimize risk management and compliance with laws and regulations and the pursuit of sustainable corporate value; (2) Continue to master the key supply chain role by establishing effective partnerships and developing innovative business models; (3) Remain committed to technological innovation, combining advanced manufacturing, smart factories, data assets and core talents.

In closing, we would like to thank our customers and shareholders for their support, and the efforts of all employees that enabled UMC to realize record breaking revenues in 2020 despite the impact of the epidemic. We will continue to pursue growth and progress and set higher benchmarks, continue to invest, deepen our roots in Taiwan, and serve our customers across the globe so that we can create a win-win situation for shareholders, colleagues, customers, and the society. We would like to express our sincere gratitude to all shareholders, and we wish you good health and happiness.



President: SC Chien

Chairman: Stan Hung

President: Jason Wang

Sen-Chieh Chien Stan Hung Jason Wang

Corporate Profile

- 9 Corporate Profile and Date of Establishment
- 10 Corporate Milestones

Corporate Profile and Date of Establishment

Founded on May 22, 1980 as Taiwan's first semiconductor company, UMC has grown to become a leading global semiconductor foundry. The company provides high quality IC production with a focus on both logic and specialty technologies to serve every major sector of the electronics industry. UMC's comprehensive technology and manufacturing solutions include Logic/RF, embedded high voltage, embedded flash, RFSOI/BCD and IATF-16949 automotive manufacturing certification for all its manufacturing facilities. UMC operates 12 fabs that are strategically located throughout Asia with a maximum capacity of more than 750,000 8-inch equivalent wafers per month. The company has offices in Taiwan, China, Europe, Japan, Korea, Singapore, and the United States.

UMC led the development of the commercial semiconductor industry in Taiwan. It was the first local company to offer foundry services, as well as the first semiconductor company to list on the Taiwan Stock Exchange (1985). UMC has an extensive network of service offices in Taiwan, China, Europe, Japan, Korea, Singapore, and the United States with approximately 19,000 employees worldwide to meet the needs of its global customer base. UMC will continue to provide customers with robust process technologies and comprehensive foundry solutions, enabling customers to continuously strengthen their competitive advantage in today's rapidly changing industry.

UMC has 12 wafer fabs located throughout Asia, including four advanced 12-inch fabs. Fab 12A was Taiwan's first 12-inch fab, and has been in volume production for customer products since 2002. This advanced facility consists of Phases 1-6 and is currently manufacturing customer products using 28-nanometer High-K/Metal gate technologies. UMC's second 12-inch fab, Fab 12i, is located in Singapore. This facility is the company's specialty technology center that provides highly specialized processes on 12-inch manufacturing to serve a diverse range of product applications. United Semi, located in Xiamen, China, was established as southern China's first 12-inch foundry fab and began volume production in 2016. United Semi serves China's vast IC market and provides high quality, geographically diversified manufacturing for our foundry customers. Japan-based USJC, fully acquired in October of 2019, is UMC's fourth 300mm fab. USJC offers foundry volume production for mature specialty nodes ranging from 90-nanometer to 40-nanometer.

In addition, UMC's manufacturing expertise and over 40 years of experience ensure industry-leading cycle times and defect densities. Comprehensive process control systems with advanced methodologies and a strong engineering team support fast product ramp. UMC's advanced automation, mature defect density, fast cycle times and ample capacity enable UMC to provide the most competitive manufacturing advantages for our foundry customers.

Company establishment date: May 22, 1980.

Corporate Milestones

May, 1980	Established
July, 1985	Officially listed on the TWSE
July, 1995	Transformed into a pure-play foundry company
July-September, 1995	Formed joint ventures with 11 IC design houses from North America to establish three foundry companies
September, 1995	8-inch fab started mass production
January, 1996	0.35-micron technology process started production
October, 1997	0.25-micron technology process started production
April, 1998	Acquired Holtek Semiconductor fab (now known as Fab 8E)
December, 1998	Acquired Nippon Steel Semiconductor Corp. fab (renamed UMCJ in 2001)
March, 1999	0.18-micron technology process started production
November, 1999	Official construction began for UMC's 12-inch fab in Tainan Science Park
January, 2000	UMC Group 5-in-1 Millennium (Consolidated UMC, United Semiconductor Corp. (USC), United Integrated Circuits Corp. (UICC), United Silicon, Inc. (USIC) and UTEK Semiconductor Corp. into a single UMC)
March, 2000	Manufactured first IC using all-copper interconnects
May, 2000	Manufactured first 0.13-micron process IC
September, 2000	Listed on the New York Stock Exchange
December, 2000	Groundbreaking for the world's most advanced 12-inch fab in Singapore (UMCi)
January, 2003	UMCi announced 12-inch fab equipment move-in
March, 2003	Manufactured the first 90nm process IC
March, 2004	UMCi started mass production
May, 2004	90nm process was fully verified and started mass production
July, 2004	UMC acquired SiS Microelectronics (now known as Fab 8S)
December, 2004	Acquired its subsidiary UMCi and changed its name to Fab 12i

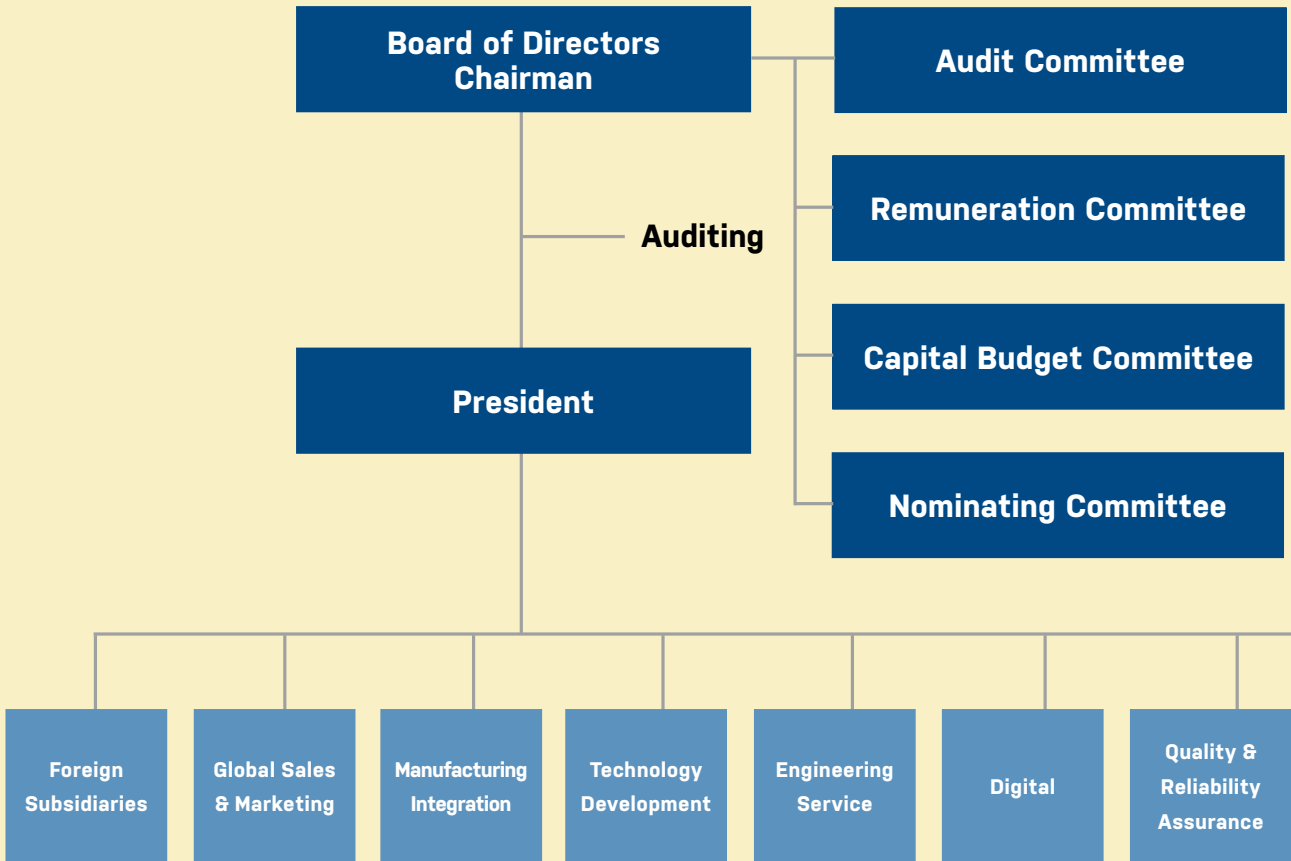
June, 2005	Manufactured the first 65nm customer IC
August, 2005	90nm wafer shipments exceeded 100,000
June, 2006	Became the first semiconductor manufacturer in the world to complete QC-080000 IECQ HSPM certification for all company-wide sites
November, 2006	Manufactured the first 45nm IC
January, 2007	Expanded production site and completed a new R&D building in Tainan Science Park
September, 2008	Listed as a constituent stock by Dow Jones Sustainability Indexes
October, 2008	Announced foundry industry's first 28nm SRAMs
April, 2009	Delivered customer ICs produced on its high performance 40nm logic technology
December, 2009	Announced completion of tender offer to UMC Japan
May, 2010	Celebrated 30th Anniversary
December, 2010	12-inch fab Fab 12A Phase 3 began production
October, 2011	28nm process began pilot production
May, 2012	Groundbreaking ceremony for Fab 12A's new Phase 5 & 6 in Tainan Science Park
March, 2013	Acquired HeJian Fab based in Suzhou, China
May, 2013	Established its Specialty Technology Center of Excellence in Singapore
August, 2014	Joined Fujitsu's new foundry company
March, 2015	Groundbreaking of United Semi (Xiamen) Fab
November, 2016	Held grand opening ceremony for new 12-inch fab in Xiamen, China and the fab started mass production
February, 2017	Entered mass production for 14nm customer ICs
June, 2018	Board approved 100% acquisition of MIFS fab in Japan from Fujitsu
October, 2019	Acquired 100% of MIFS 300mm fab, renamed USJC
May, 2020	Celebrated 40th Anniversary
November, 2020	Selected as a DJSI Global Component for 13th Consecutive Year



Corporate Governance Report

- 14 Corporate Organization
- 16 Directors' and Managers' Information
- 37 Corporate Governance Practices
- 93 Certified Public Accountant (CPA) Fee Information
- 93 Information of CPA Change
- 93 UMC's Chairman, Presidents, Chief Financial Officer, and Managers in Charge of Its Finance and Accounting Operations Did Not Hold Any Positions in UMC's Independent Auditing Firm or Its Affiliates in the Most Recent Year
- 94 Change in Shareholding of Directors, Managers and Major Shareholders Who Own 10% or More of UMC Shares
- 96 Relationship Among the Top 10 Shareholders
- 97 Shares Held by the Company, Directors, Managers and Companies Directly or Indirectly Controlled by the Company, and the Comprehensive Shareholding Ratio Based on Combined Calculation

Corporate Organization



Organizational Functions

Foreign Subsidiaries

- Responsible for client and regional market development in the Americas, Europe, and Asia, and provide technical support and services.

Global Sales and Marketing

- Responsible for global customer and operational management and market development, and provide technical support and services.
- Undertake UMC's objectives, analyze market information and integrate UMC's internal resources and external competition. Formulate technical development blueprints, strategic recommendations and advanced market development to serve as reference for UMC's future business direction.

Manufacturing Integration

- Responsible for managing 8-inch and 12-inch operations, product manufacturing, manufacturing technology development, and integration of production and services.

Technology Development

- Design, develop and manage intellectual property core for customer product needs.
- Research and develop advanced process technology platforms, and develop and apply advanced material technology platforms.
- Research and develop technologies for various mature and special process platforms.

Engineering Service

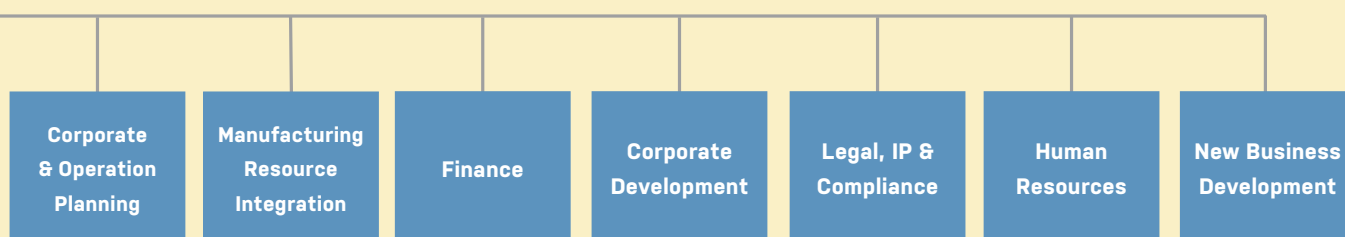
- Responsible for product engineering, malfunction and material analysis, product introduction and yield improvement for all fabs.
- Provide company-wide photomask service, management, quality control and improvements.
- Provide company-wide back-end encapsulation testing, quality control and improvements.

Digital

- Through innovative digital technologies, combined IoT, big data and artificial intelligence and integrated semiconductor expertise (OT) and information technology (IT). Construct data-driven advanced semiconductor smart manufacturing systems to improve product quality and yield. Improve and optimize production efficiency and production costs to achieve world-class quality of production services. Ensure information security and service quality to achieve customer satisfaction, company operational efficiency, and research and development momentum.

Quality and Reliability Assurance

- Responsible for comprehensive quality management, strengthening quality awareness and improving product reliability testing to meet customer demand for quality and improve quality control for mass products.



Corporate and Operation Planning

- Develop capacity plans and operational resource integration, and assist in production and sales coordination.

Manufacturing Resource Integration

- Responsible for company-wide plant operations, plant expansion planning and environmental safety and risk management.

Finance

- Responsible for UMC's finances and accounting management, and serve as spokesperson for UMC.

Corporate Development

- Responsible for corporate development and strategy planning.

Legal, Intellectual Property and Compliance

- Responsible for domestic and international intellectual property rights management, legal affairs, and compliance with domestic and foreign laws and regulations.

Human Resources

- Responsible for the selection, utilization, cultivation and retention of human resource and ensuring a suitable working environment for employees.
- Responsible for ensuring the physical safety of UMC's personnel, affairs and objects through tangible actions.

New Business Development

- Responsible for developing, assessing and managing new ventures.

Auditing

- Responsible for assisting the Board of Directors and managers to independently and objectively assess the effectiveness of designs and implementation of internal control system. Provide timely recommendations for improvement to ensure compliance with UMC's policies and relevant laws and regulations.

Directors' and Managers' Information

Directors' Information

Title	Nationality /Place of Incorporation	Name	Gender	Date Elected (Date Assumed) <Date First Elected>	Term Expires	Shareholding When Elected		Present Shareholding	
						Common Shares	%	Common Shares	%
Chairman	R.O.C.	Stan Hung	Male	2018.06.12 <2008.07.16>	2021.06.11	16,341,452	0.13	49,301,452	0.40
Independent Director	R.O.C.	Cheng-Li Huang	Male	2018.06.12 <2009.06.10>	2021.06.11	0	0	0	0
Independent Director	R.O.C.	Wenyi Chu	Female	2018.06.12 <2015.06.09>	2021.06.11	0	0	0	0
Independent Director	R.O.C.	Lih J. Chen	Male	2018.06.12 <2018.06.12>	2021.06.11	0	0	0	0
Independent Director	R.O.C.	Jyuo-Min Shyu	Male	2018.06.12 <2018.06.12>	2021.06.11	0	0	0	0

Spouse & Minor Shareholding		Experience (Education)	Selected Current Position at UMC and Other Companies
Common Shares	%		
1,269,435	0.01	Chairman, UMC Bachelor in Accounting, Tamkang University	Chairman & Chief Strategic Officer, UMC; Chairman, Fortune Venture Capital Corp.; Chairman, TLC Capital Co., Ltd.; Chairman, Faraday Technology Corporation; Chairman, UMC Capital Corp.; Director, Triknight Capital Corporation; Director, United Microelectronics (Europe) B.V.; Director, UnitedDS Semiconductor (Shandong) Co., Ltd.
0	0	Certified Public Accountant, Zheng Ji Accounting Firm Professor, Department of Accounting, Tamkang University Ph.D. of Business School, the University of Warwick	None
0	0	Professor, Department of Business Administration, National Taiwan University Ph.D. of London Business School	None
0	0	Academician, Academia Sinica Distinguished Chair Professor, National Tsing Hua University Ph.D. in Physics, University of California, Berkeley	None
0	0	Emeritus Professor, National Tsing Hua University Minister, Ministry of Science and Technology President, Industrial Technology Research Institute Ph.D. in Electrical Engineering and Computer Science, University of California, Berkeley	Independent Director, Qisda Corporation; Director, Iridium Medical Technology Co., Ltd.; Director, GeoThings, Inc.; Director, Modern Classic Limited

Directors' Information (Continue)

Title	Nationality /Place of Incorporation	Name	Gender	Date Elected (Date Assumed) <Date First Elected>	Term Expires	Shareholding When Elected		Present Shareholding	
						Common Shares	%	Common Shares	%
Director	R.O.C.	Ting-Yu Lin	Male	2018.06.12 <2009.06.10>	2021.06.11	12,547,222	0.10	12,547,222	0.10
Director	R.O.C.	Hsun Chieh Investment Co., Ltd.	N/A	2018.06.12 <1995.06.21>	2021.06.11	441,371,000	3.50	441,371,000	3.55
	R.O.C.	Representative: SC Chien	Male	2018.06.12 <2016.03.01>	2021.06.11	1,894,648	0.02	9,294,648	0.07
Director	R.O.C.	Silicon Integrated Systems Corp.	N/A	2018.06.12 <2005.06.13>	2021.06.11	315,380,424	2.50	285,380,424	2.30
	U.S.A.	Representative: Jason Wang	Male	2018.06.12 <2015.06.09>	2021.06.11	0	0	18,715,000	0.15
Former Director	R.O.C. U.S.A.	Chung Laung Liu	Male	2018.06.12 <2006.06.12>	2021.06.11	0	0	N/A	N/A

Note 1: Present shareholding figures are actual number of shares held on January 31, 2021.

Note 2: Directors' election date is the same date they assumed their positions.

Note 3: Directors are not spouses or relatives within the second degree of kinship of other managers and directors.

Spouse & Minor Shareholding		Experience (Education)	Selected Current Position at UMC and Other Companies
Common Shares	%		
0	0	Chairperson, Sunrox International Inc. Master in International Finance, Meiji University	Director, Unimicron Technology Corp.
N/A	N/A	N/A	N/A
0	0	Director, UMC Bachelor in Chemical Engineering, National Taiwan University	President, UMC; Director, Fortune Venture Capital Corp.; Director, TLC Capital Co., Ltd.; Director, Unimicron Technology Corp.; Director, UMC Capital Corp.
N/A	N/A	N/A	N/A
0	0	Director, UMC Business Administration, San Jose State University	President, UMC; Director, Fortune Venture Capital Corp.; Director, TLC Capital Co., Ltd.; Director, UMC Group (USA); Director, United Microelectronics (Europe) B.V.; Director, UMC Capital Corp.; Director, United Microtechnology Corporation (California); Director, Sino Paragon Limited
N/A	N/A	Academician, Academia Sinica Honorary Chair Professor, National Tsing Hua University Sc.D. of Massachusetts Institute of Technology	N/A

Note 4: Directors did not hold shares through other parties.

Note 5: Presidents and Chairman are not the same person, spouses or relatives within the first degree of kinship.

Note 6: Director Chung Laung Liu was dismissed on November 7, 2020.

Major Shareholders of UMC's Institutional Shareholders

Name of Institutional Shareholders	Major Shareholders (Holding Percentage)
Hsun Chieh Investment Co., Ltd.	Shieh Yong Capital Co., Ltd. (63.51%); UMC (36.49%)
Silicon Integrated Systems Corp.	UMC (19.01%); Hsun Chieh Investment Co., Ltd. (3.16%); Hsing-Sen Liu (1.38%); Vanguard Emerging Markets Stock Index Fund, a series of Vanguard International Equity Index Funds (1.12%); Credit Suisse Securities (Europe) Limited (1.10%); JPMorgan Chase Bank N.A., Taipei Branch in custody for Vanguard Total International Stock Index Fund, a series of Vanguard Star Funds (1.04%); Yung Chin Investment Corporation (0.63%); JPMorgan Securities Plc (0.51%); Tsung-Ming Chuang (0.48%); Wen-Hsi Chen (0.45%)

Major Shareholders of UMC's Major Institutional Shareholders

Name of Institutional Shareholders	Major Shareholders (Holding Percentage)
Shieh Yong Capital Co., Ltd.	Unimicron Technology Corp. (16.67%); Silicon Integrated Systems Corp. (16.67%); Novatek Microelectronics Corp. (15.15%); Yann Yuan Investment Co., Ltd. (12.20%); Faraday Technology Corporation (12.12%); King Yuan Electronics Co., Ltd. (7.58%)
Yung Chin Investment Corporation	Yung-Ken Chu (25.00%); Hsing-Chin Chen (25.00%); Wen-Ping Fan (25.00%); Ya-Feng Chuang (25.00%)

Directors' Professional Knowledge and Independence Information

Name	Criteria	Five or More Years of Experience or Professional Qualification			Independence Status (Note)												Number of Companies also Serves as Independent Director for	
		Lecturer or Above in Business, Law, Finance, Accounting or Corporate Business Related Fields	Qualification of Justice, Procurator, Attorney, CPA, Specialist or Technician of National Examination in Corporate Business Related Fields	Experience in Business, Law, Finance, Accounting or Corporate Business Related Fields	1	2	3	4	5	6	7	8	9	10	11	12		
Stan Hung				Yes	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
SC Chien				Yes	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	0
Jason Wang				Yes	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	0
Cheng-Li Huang	Yes	Yes	Yes	Yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
Wenyi Chu	Yes		Yes	Yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
Lih J. Chen	Yes		Yes	Yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
Jyuo-Min Shyu	Yes		Yes	Yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
Ting-Yu Lin				Yes	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0

Note: For those directors who match the condition listed below during and two years before assuming period, "✓" is marked in the appropriate space.

- (1) Is not an employee of the Company or its affiliates.
- (2) Is not a director or supervisor of the Company or its affiliates (the same does not apply, however, in cases where the person is an independent director of the Company who serves concurrently as an independent director of its parent company, subsidiary, or subsidiary of the same parent company in accordance with the laws of Taiwan or with the laws of the country of the parent company, subsidiary or subsidiary of the same parent company).
- (3) Does not directly or indirectly own more than 1% of the Company's outstanding shares, nor is one of the top ten non-institutional shareholders of the Company.
- (4) Is not a spouse, relative within the second degree of kinship or lineal relative within the third degree of kinship of managers specified in column (1) or any person specified in columns (2) and (3).
- (5) Is not a director, supervisor or employee of a legal entity which directly owns more than 5% of the Company's issued shares or are the top five owners of the Company's issued shares, nor a director, supervisor or employee of a legal entity which designates a representative to serve as a director or supervisor of the Company in accordance with Article 27, paragraph 1 or 2 of the Company Act (the same does not apply, however, in cases where the person is an independent director of the Company who serves concurrently as an independent director of its parent company, subsidiary, or subsidiary of the same parent company in accordance with the laws of Taiwan or with the laws of the country of the parent company, subsidiary or subsidiary of the same parent company).
- (6) Is not a director, supervisor or employee of another company, and more than half of directors or voting shares of the other company are controlled by the same person (the same does not apply, however, in cases where the person is an independent director of the Company who serves concurrently as an independent director of its parent company, subsidiary, or subsidiary of the same parent company in accordance with the laws of Taiwan or with the laws of the country of the parent company, subsidiary or subsidiary of the same parent company).
- (7) Is not a director, supervisor or employee of another company, and Chairman, President or Manager with equivalent position of the other company are the same person or spouse (the same does not apply, however, in cases where the person is an independent director of the Company who serves concurrently as an independent director of its parent company, subsidiary, or subsidiary of the same parent company in accordance with the laws of Taiwan or with the laws of the country of the parent company, subsidiary or subsidiary of the same parent company).
- (8) Is not a director, supervisor, or manager of a company which has a business relationship with the Company, nor a shareholder who owns more than 5% of such a company (the same does not apply, however, in cases where a company owns more than 20% but less than 50% of the Company's issued shares and the person is an independent director of the Company who serves concurrently as an independent director of its parent company, subsidiary, or subsidiary of the same parent company in accordance with the laws of Taiwan or with the laws of the country of the parent company, subsidiary or subsidiary of the same parent company).
- (9) Is not an owner, partner, director, supervisor, manager or spouse of any sole proprietor business, partnership, company or institution which has provided the Company and its affiliates with auditing or services in finance, business consultation and legal affairs for which the accumulated remuneration in the past two years does not exceed NTD 500,000, provided that this restriction does not apply to any member of the compensation committee, public tender offer review committee, or special committee on mergers and acquisitions who exercises powers pursuant to related regulations such as the "Securities and Exchange Act" or the "Business Mergers and Acquisitions Act."
- (10) Is not a spouse or relative within the second degree of kinship of any of the directors.
- (11) Is not under any condition pursuant to Article 30 of the Company Act.
- (12) Is not a legal entity owner or its representative pursuant to Article 27 of the Company Act.

Managers' Information

Title	Nationality	Name	Gender	Date Elected (Date Assumed)	Present Shareholding		Spouse & Minor Shareholding	
					Common Shares	%	Common Shares	%
Chairman & Chief Strategic Officer	R.O.C.	Stan Hung	Male	2008.07.16	49,301,452	0.40	1,269,435	0.01
President	R.O.C.	SC Chien	Male	2004.11.23	9,294,648	0.07	0	0
President	U.S.A.	Jason Wang	Male	2014.12.24	18,715,000	0.15	0	0
Executive Vice President	R.O.C.	Ming Hsu	Male	2015.06.08	2,553,000	0.02	0	0
Senior Vice President	R.O.C.	Oliver Chang	Male	2020.02.26	1,483,589	0.01	0	0
Senior Vice President & Chief Financial Officer	R.O.C.	Chitung Liu	Male	2005.10.20	3,280,217	0.03	150,000	0.00
Senior Vice President & General Counsel	R.O.C.	Lucas S Chang	Male	2018.01.01	600,000	0.00	0	0
Vice President	R.O.C.	TS Wu	Male	2013.01.01	1,572,809	0.01	304	0.00
Vice President	R.O.C.	C C Hsu	Male	2013.01.01	2,052,068	0.02	0	0
Vice President	R.O.C.	M C Lai	Male	2015.03.30	2,426,863	0.02	0	0
Vice President	R.O.C.	G C Hung	Male	2015.01.28	1,940,791	0.02	0	0
Vice President	R.O.C.	Wenchi Ting	Male	2017.01.03	150,000	0.00	0	0

Experience/Education	Selected Current Position at Other Companies
Chairman & Chief Strategic Officer, UMC Bachelor in Accounting, Tamkang University	Chairman, Fortune Venture Capital Corp.; Chairman, TLC Capital Co., Ltd.; Chairman, Faraday Technology Corporation; Chairman, UMC Capital Corp.; Director, Triknight Capital Corporation; Director, United Microelectronics (Europe) B.V.; Director, UnitedDS Semiconductor (Shandong) Co., Ltd.
President, UMC Bachelor in Chemical Engineering, National Taiwan University	Director, Fortune Venture Capital Corp.; Director, TLC Capital Co., Ltd.; Director, Unimicron Technology Corp.; Director, UMC Capital Corp.
President, UMC Business Administration, San Jose State University	Director, Fortune Venture Capital Corp.; Director, TLC Capital Co., Ltd.; Director, UMC Group (USA); Director, United Microelectronics (Europe) B.V.; Director, UMC Capital Corp.; Director, United Microtechnology Corporation (California); Director, Sino Paragon Limited
Executive Vice President, UMC Master in Science Electrical Engineering, University of Southern California	Director, United Semiconductor Japan Co., Ltd.
Senior Vice President, UMC Bachelor in Physics, Chinese Culture University	None
Senior Vice President & Chief Financial Officer, UMC EMBA in Business Administration, National Taiwan University	Director, Fortune Venture Capital Corp.; Director, TLC Capital Co., Ltd.; Director, Unimicron Technology Corp.; Director, Novatek Microelectronics Corp.; Director, HeJian Technology (Suzhou) Co., Ltd.; Director, UMC Group (USA); Director, Green Earth Limited; Director, ECP Vita Pte. Ltd.; Director, Omni Global Limited; Director, UMC Capital Corp.; Director, United Microchip Corporation; Director, Sino Paragon Limited; Director, United Semiconductor Japan Co., Ltd.
Senior Vice President & General Counsel, UMC J.D. in Law, University of Santa Clara	Director, Alpha and Omega Semiconductor Limited
Vice President, UMC Master in Electronic Engineering, National Chiao Tung University	None
Vice President, UMC Master in Materials Science & Engineering, National Tsing Hua University	Vice Chairman, United Semiconductor (Xiamen) Co., Ltd.
Vice President, UMC Bachelor in Materials Science & Engineering, National Tsing Hua University	Chairman, Wavetek Microelectronics Corporation; Director, Wavetek Microelectronics Investment (Samoa) Limited; Director, HeJian Technology (Suzhou) Co., Ltd.
Vice President, UMC Master in Chemical Engineering, National Taiwan University	Director, Wavetek Microelectronics Corporation
Vice President, UMC Ph.D. in Computer Information Science, University of Texas at Austin	Director, Asia Pacific Microsystems, Inc.

Managers' Information (Continue)

Title	Nationality	Name	Gender	Date Elected (Date Assumed)	Present Shareholding		Spouse & Minor Shareholding	
					Common Shares	%	Common Shares	%
Vice President	R.O.C.	Jerry CJ Hu	Male	2013.04.02	1,245,000	0.01	0	0
Vice President	R.O.C.	Y S Shen	Male	2014.01.13	950,000	0.01	0	0
Vice President	R.O.C.	Steven S Liu	Male	2017.04.24	1,800,000	0.01	0	0
Vice President	R.O.C.	SR Sheu	Male	2008.07.16	1,418,892	0.01	786,017	0.01
Vice President	R.O.C.	M L Liao	Male	2008.07.16	3,190,809	0.03	152,138	0.00
Vice President	R.O.C.	S S Hong	Male	2013.01.01	616,406	0.00	0	0
Vice President	R.O.C.	Francia Hsu	Female	2016.03.16	1,321,000	0.01	0	0
Vice President	R.O.C.	Mindy Lin	Female	2018.05.14	1,643,925	0.01	781,408	0.01
Vice President & Chief Human Resources Officer	R.O.C.	Eric Chen	Male	2011.02.14	1,550,000	0.01	0	0
Associate Vice President	R.O.C.	Johnson Liu	Male	2014.11.04	536,413	0.00	401,631	0.00
Associate Vice President	R.O.C.	Victor Chuang	Male	2019.03.28	464,671	0.00	13,943	0.00
Associate Vice President	R.O.C.	Chuck Chen	Male	2019.03.28	550,000	0.00	0	0
Associate Vice President	R.O.C.	S F Tzou	Male	2013.01.01	1,679,108	0.01	0	0
Associate Vice President	R.O.C.	Le Tien Jung	Male	2013.01.01	880,000	0.01	20,000	0.00
Associate Vice President	R.O.C.	Yau Kae Sheu	Male	2014.01.13	1,320,000	0.01	0	0

Experience/Education	Selected Current Position at Other Companies
Vice President, UMC Ph.D. in Materials Science & Engineering, Stanford University	None
Vice President, UMC Bachelor in Electronic Engineering, Feng Chia University	Director, Faraday Technology Corporation
Vice President, UMC Master in Science Electrical Engineering, University of Southern California	None
Vice President, UMC Master in Electrical Engineering, The University of New Mexico	None
Vice President, UMC Bachelor in Electronic Engineering, National Taiwan Institute of Technology	None
Vice President, UMC Bachelor in Materials Science & Engineering, National Tsing Hua University	Chairman, United Semiconductor Japan Co., Ltd.
Vice President, UMC Master in Industrial Engineering, National Chiao Tung University	None
Vice President, UMC Master in Business Administration, University of Leicester	None
Vice President & Chief Human Resources Officer, UMC EMBA in Finance, National Taiwan University	Director, Best Elite International Limited
Associate Vice President, UMC Bachelor in Physics, Tamkang University	None
Associate Vice President, UMC Bachelor in Electrical Engineering, National Cheng Kung University	None
Associate Vice President, UMC Master in Engineering Science, National Cheng Kung University	None
Associate Vice President, UMC Master in Materials Science & Engineering, National Tsing Hua University	None
Associate Vice President, UMC Ph.D. in Electrical Engineering, University of Texas at Austin	None
Associate Vice President, UMC Master in Electrical Engineering, University of Missouri	None

Managers' Information (Continue)

Title	Nationality	Name	Gender	Date Elected (Date Assumed)	Present Shareholding		Spouse & Minor Shareholding	
					Common Shares	%	Common Shares	%
Associate Vice President	R.O.C.	J Y Wu	Male	2014.05.01	1,000,191	0.01	587	0.00
Associate Vice President	R.O.C.	Osbert Cheng	Male	2014.08.01	755,000	0.01	0	0
Associate Vice President	R.O.C.	Steven Hsu	Male	2016.03.16	510,000	0.00	2,889	0.00
Associate Vice President	Singapore	Purakh Raj Verma	Male	2017.08.09	0	0	0	0
Associate Vice President	R.O.C.	Yanan Mou	Male	2019.07.01	0	0	140,146	0.00
Associate Vice President	R.O.C.	Remi Yu	Male	2019.11.15	383,000	0.00	0	0
Associate Vice President	R.O.C.	Michael CY Wang	Male	2019.12.31	0	0	0	0
Associate Vice President	R.O.C.	Ji Fu Kung	Male	2013.01.01	827,741	0.01	0	0
Associate Vice President	R.O.C.	C P Yen	Male	2015.09.16	758,645	0.01	512,000	0.00
Associate Vice President	R.O.C.	Pang Min Wang	Male	2018.09.14	221,126	0.00	16	0.00
Associate Vice President	R.O.C.	Ray Yang	Male	2020.07.01	376,274	0.00	117	0.00
Associate Vice President	R.O.C.	Bellona Chen	Female	2020.08.01	555,126	0.00	0	0
Associate Vice President	R.O.C.	Louis Hsieh	Male	2020.10.01	200,000	0.00	0	0
Former Associate Vice President	R.O.C.	C Y Hsu	Male	2017.04.17	N/A	N/A	N/A	N/A

Note 1: CY Hsu, former manager, was dismissed in 2020.

Note 2: Present shareholding figures are actual number of shares held on January 31, 2021.

Note 3: Managers did not hold shares through other parties.

Note 4: Managers are not spouses or relatives within the second degree of kinship of other managers.

Note 5: Managers' election date is the same date they assumed their positions.

Note 6: Presidents and Chairman are not the same person, spouses or relatives within the first degree of kinship.

Experience/Education	Selected Current Position at Other Companies
Associate Vice President, UMC Master in Physics, Tamkang University	None
Associate Vice President, UMC Ph.D. in Electrical Engineering, National Chiao Tung University	None
Associate Vice President, UMC Master in Electronic Engineering, National Chiao Tung University	None
Associate Vice President, UMC Master in Microelectronics, Nanyang Technological University	None
Associate Vice President, UMC Master in Electrical Engineering, State University of New York at Stony Brook	None
Associate Vice President, UMC Bachelor in Electrophysics, National Chiao Tung University	None
Associate Vice President, UMC Master in Chemical Engineering, Cornell University	None
Associate Vice President, UMC Ph.D. in Materials Science, University of Connecticut	None
Associate Vice President, UMC Master in Engineering Science, National Cheng Kung University	None
Associate Vice President, UMC Master in Integrated Manufacturing Systems Engineering, North Carolina State University	None
Associate Vice President, UMC Master in Electrical Engineering, The Ohio State University	None
Associate Vice President, UMC Master in Business Administration, Columbia University	Director, ITE Tech Inc.; Director, ECP Vita Pte. Ltd.; Supervisor, Fortune Venture Capital Corp.
Associate Vice President, UMC Master in Chemistry department, University of Missouri_Rolla Campus	None
Former Associate Vice President, UMC EMBA. National Chiao Tung University	N/A

Remuneration Paid to Directors (Including Independent Directors), Presidents and Vice Presidents

Directors' Remuneration (Including Independent Directors')

Title	Name	Director's Remuneration								Ratio of Total Remuneration (A+B+C+D) to Net Income (%)	
		Base Compensation (A)		Severance Pay and Pensions(B)		Compensation to Directors(C)		Business Execution Expenses(D)			
		The Company	Companies in the Consolidated Financial Statements	The Company	Companies in the Consolidated Financial Statements	The Company	Companies in the Consolidated Financial Statements	The Company	Companies in the Consolidated Financial Statements	The Company	Companies in the Consolidated Financial Statements
Chairman	Stan Hung										
Independent Director	Cheng-Li Huang										
Independent Director	Wenyi Chu										
Independent Director	Lih J. Chen										
Independent Director	Jyuo-Min Shyu	0	173	0	0	32,369	55,369	9,800	9,890	0.14	0.22
Director	Ting-Yu Lin										
Director	Hsun Chieh Investment Co., Ltd. Representative: SC Chien										
Director	Silicon Integrated Systems Corp. Representative: Jason Wang										
Former Director	Chung Laung Liu										

In addition to the information disclosed in the table above, has any Director of the Company provided services to any of the companies included in the Financial Statements and received compensation for such services (e.g. provided consultation services in a non-employee capacity): None.

In Thousand NTD

Compensation Earned by a Director Who Is an Employee of UMC or UMC's Consolidated Entities								Ratio of Total Compensation (A+B+C+D+E+F+G) to Net Income (%)	Compensation from Other Non-Consolidated Entities Invested by the Company	
Base Compensation Bonuses and Special Expenses etc. (E)		Severance Pay and Pensions (F)		Employees' Profit Sharing Bonus (G)						
The Company	Companies in the Consolidated Financial Statements	The Company	Companies in the Consolidated Financial Statements	The Company		Companies in the Consolidated Financial Statements		The Company	Companies in the Consolidated Financial Statements	
				Cash	Stock	Cash	Stock			
150,339	159,875	292	292	25,110	0	25,110	0	0.75	0.86	2,987

Remuneration Paid to Directors (Including Independent Directors), Presidents and Vice Presidents (Continue)

Remuneration Range for Each Director in the Company	Names of Directors			
	Sum of the First 4 Items (A+B+C+D)		Sum of the First 7 Items (A+B+C+D+E+F+G)	
	The Company	Companies in the Consolidated Financial Statements	The Company	Companies in the Consolidated Financial Statements
Lower than NTD 1,000,000	SC Chien Jason Wang			
NTD 1,000,000 (inclusive)~ NTD 2,000,000 (exclusive)				
NTD 2,000,000 (inclusive)~ NTD 3,500,000 (exclusive)				
NTD 3,500,000 (inclusive)~ NTD 5,000,000 (exclusive)	Stan Hung Hsun Chieh Investment Co., Ltd. Silicon Integrated Systems Corp. Chung Laung Liu	Hsun Chieh Investment Co., Ltd. Silicon Integrated Systems Corp. Chung Laung Liu	Hsun Chieh Investment Co., Ltd. Silicon Integrated Systems Corp. Chung Laung Liu	Hsun Chieh Investment Co., Ltd. Silicon Integrated Systems Corp. Chung Laung Liu
NTD 5,000,000 (inclusive)~ NTD 10,000,000 (exclusive)	Cheng-Li Huang Wenyi Chu Lih J. Chen Jyuo-Min Shyu Ting-Yu Lin	SC Chien Jason Wang Cheng-Li Huang Wenyi Chu Lih J. Chen Jyuo-Min Shyu Ting-Yu Lin	Cheng-Li Huang Wenyi Chu Lih J. Chen Jyuo-Min Shyu Ting-Yu Lin	Cheng-Li Huang Wenyi Chu Lih J. Chen Jyuo-Min Shyu Ting-Yu Lin
NTD 10,000,000 (inclusive)~ NTD 15,000,000 (exclusive)		Stan Hung		
NTD 15,000,000 (inclusive)~ NTD 30,000,000 (exclusive)				
NTD 30,000,000 (inclusive)~ NTD 50,000,000 (exclusive)				
NTD 50,000,000 (inclusive)~ NTD 100,000,000 (exclusive)			Stan Hung SC Chien Jason Wang	Stan Hung SC Chien Jason Wang
NTD 100,000,000 or More				
Total	11	11	11	11

Remuneration Paid to Directors (Including Independent Directors), Presidents and Vice Presidents (Continue)
Compensation Paid to Presidents and Vice Presidents

Title	Name	Salary(A)		Severance Pay and Pensions(B)		Bonuses and Special Expenses etc. (C)	
		The Company	Companies in the Consolidated Financial Statements	The Company	Companies in the Consolidated Financial Statements	The Company	Companies in the Consolidated Financial Statements
Chairman & Chief Strategic Officer	Stan Hung						
President	SC Chien						
President	Jason Wang						
Executive Vice President	Ming Hsu						
Senior Vice President	Oliver Chang						
Senior Vice President & Chief Financial Officer	Chitung Liu						
Senior Vice President & General Counsel	Lucas S Chang	81,257	101,233	2,255	2,255	390,037	402,553
Vice President	TS Wu						
Vice President	C C Hsu						
Vice President	M C Lai						
Vice President	G C Hung						
Vice President	Wenchi Ting						
Vice President	Jerry CJ Hu						
Vice President	Y S Shen						
Vice President	Steven S Liu						
Vice President	SR Sheu						
Vice President	M L Liao						
Vice President	S S Hong						
Vice President	Francia Hsu						
Vice President	Mindy Lin						
Vice President & Chief Human Resources Officer	Eric Chen						

In Thousand NTD

The Company		Companies in the Consolidated Financial Statements		Ratio of Total Compensation (A+B+C+D) to Net Income (%)	Compensation from Other Non-Consolidated Entities Invested by the Company	
Cash	Stock	Cash	Stock			
113,700	0	113,700	0	2.01	2.12	4,362

Remuneration Paid to Directors (Including Independent Directors), Presidents and Vice Presidents (Continue)

Compensation Range for Each President and Vice President in the Company	Names of Presidents and Vice Presidents	
	The Company	Companies in the Consolidated Financial Statements
Lower than NTD 1,000,000		
NTD 1,000,000 (inclusive)~ NTD 2,000,000 (exclusive)		
NTD 2,000,000 (inclusive)~ NTD 3,500,000 (exclusive)		
NTD 3,500,000 (inclusive)~ NTD 5,000,000 (exclusive)		
NTD 5,000,000 (inclusive)~ NTD 10,000,000 (exclusive)		
NTD 10,000,000 (inclusive)~ NTD 15,000,000 (exclusive)	Mindy Lin	Mindy Lin
NTD 15,000,000 (inclusive)~ NTD 30,000,000 (exclusive)	Oliver Chang, Chitung Liu, Lucas S Chang, TS Wu C C Hsu, M C Lai, G C Hung, Wenchi Ting Jerry CJ Hu, Y S Shen, Steven S Liu, SR Sheu M L Liao, S S Hong, Francia Hsu, Eric Chen	Oliver Chang, Chitung Liu, Lucas S Chang, TS Wu C C Hsu, M C Lai, G C Hung, Wenchi Ting Jerry CJ Hu, Y S Shen, Steven S Liu, SR Sheu M L Liao, S S Hong, Francia Hsu, Eric Chen
NTD 30,000,000 (inclusive)~ NTD 50,000,000 (exclusive)	Ming Hsu	Ming Hsu
NTD 50,000,000 (inclusive)~ NTD 100,000,000 (exclusive)	Stan Hung, SC Chien, Jason Wang	Stan Hung, SC Chien, Jason Wang
NTD 100,000,000 or More		
Total	21	21

Remuneration Paid to Directors (Including Independent Directors), Presidents and Vice Presidents (Continue)

Employees' Profit Sharing Bonus Paid to Management Team

In Thousand NTD

Title	Name	Stock	Cash	Total	Ratio of Total Profit Sharing Bonus to Net Income (%)
Chairman & Chief Strategic Officer	Stan Hung				
President	SC Chien				
President	Jason Wang				
Executive Vice President	Ming Hsu				
Senior Vice President	Oliver Chang				
Senior Vice President & Chief Financial Officer	Chitung Liu				
Senior Vice President & General Counsel	Lucas S Chang				
Vice President	TS Wu				
Vice President	C C Hsu				
Vice President	M C Lai				
Vice President	G C Hung				
Vice President	Wenchi Ting				
Vice President	Jerry CJ Hu				
Vice President	Y S Shen				
Vice President	Steven S Liu				
Vice President	SR Sheu				
Vice President	M L Liao				
Vice President	S S Hong				
Vice President	Francia Hsu				
Vice President	Mindy Lin				
Vice President & Chief Human Resources Officer	Eric Chen	0	174,660	174,660	0.60
Associate Vice President	Johnson Liu				
Associate Vice President	Victor Chuang				
Associate Vice President	Chuck Chen				
Associate Vice President	S F Tzou				
Associate Vice President	Le Tien Jung				
Associate Vice President	Yau Kae Sheu				
Associate Vice President	J Y Wu				
Associate Vice President	Osbert Cheng				
Associate Vice President	Steven Hsu				
Associate Vice President	Purakh Raj Verma				
Associate Vice President	Yanan Mou				
Associate Vice President	Remi Yu				
Associate Vice President	Michael CY Wang				
Associate Vice President	Ji Fu Kung				
Associate Vice President	C P Yen				
Associate Vice President	Pang Min Wang				
Associate Vice President	Ray Yang				
Associate Vice President	Bellona Chen				
Associate Vice President	Louis Hsieh				
Former Associate Vice President	C Y Hsu				

Comparison of Compensation of Directors, Presidents and Vice Presidents in the Past Two Years

	2020		2019	
	The Company	Companies in the Consolidated Financial Statements	The Company	Companies in the Consolidated Financial Statements
Net Income Stated in the Parent Company Only Financial Reports (In Thousand NTD)	29,189,489	29,189,489	9,707,614	9,707,614
The Percentage of Directors' Remuneration to Net Income (%)	0.14	0.22	0.18	0.30
The Percentage of Executive Officer's Compensation to Net Income (%)	2.01	2.12	2.13	2.42

Note: The directors' remuneration includes Base Compensation, Severance Pay and Pensions, Compensation to Directors and Business Execution Expenses. The managerial officer's compensation includes Salary, Severance Pay and Pensions, Bonuses and Special Expenses etc., and Employees' Profit Sharing Bonus.

The Company's compensation for Directors and Executive officers is based on UMC's Articles of Incorporation and formulations, and is distributed in proper ratios.

The Standards and Policies, and Portfolios for Payment of Emoluments, Procedures for Setting Emoluments, and Correlations with Business Performance and Future Risks.

Policy for Directors' (Including Independent Directors) Compensation

Pursuant to UMC's Articles of Incorporation, Article 21-1, the Company shall allocate no more than 0.2% of profit as directors' (including Independent Directors) compensation for each profitable fiscal year after offsetting any cumulative losses. Directors (including Independent Directors) may only receive compensation in cash. In accordance with Article 17, remunerations for all directors (including Independent Directors) shall be decided by the Board of Directors authorized by a meeting of shareholders according to involvements and contributions to the Companies' operation and at the normal rate adopted by other firms of the same industry.

UMC shall assess the performance of directors and officers according to the Rules for Performance Assessment of the Board of Directors and the Performance Appraisal for employees of UMC, in order to decide their compensation. An adequate compensation scheme will be calculated by referencing the Company's operation results, future risks, corporate strategies, industry trends, and also individual contribution. The performance assessment and compensation proposals were reviewed and approved by Remuneration Committee and Board of Directors. The Company will review the remuneration policy foresaid based on macroeconomics and business strategies to achieve both corporate sustainability and interest of stakeholders.

Policy for Management Team's Compensation

The Company annually evaluates its salary level with similar industries to ensure the Company's salary is competitive. The Company's salary structure can be divided into fixed and variable. The compensation is set to fully reflect the achievements for individuals and teams.

Corporate Governance Practices

Information of Board Meeting Operation

Board Meetings were held 8 times in 2020; all independent directors attended each meeting in person; the average attendance rate of all directors was 97.18%; the attendances of directors were as follows:

Title	Name	Attendance in Person	By Proxy	Attendance Rate (%)	Remarks
Chairman	Stan Hung	8	0	100.00	
Independent Director	Cheng-Li Huang	8	0	100.00	
Independent Director	Wenyi Chu	7	1	87.50	
Independent Director	Lih J. Chen	8	0	100.00	
Independent Director	Jyuo-Min Shyu	8	0	100.00	
Former Director	Chung Laung Liu	7	0	100.00	Dismissed on November 7, 2020
Director	Ting-Yu Lin	8	0	100.00	
Director	Hsun Chieh Investment Co., Ltd. Representative: SC Chien	8	0	100.00	
Director	Silicon Integrated Systems Corp. Representative: Jason Wang	8	0	100.00	

Other mentionable items:

- If any of the following circumstances occur, the dates of the meetings, sessions, contents of motion, all independent directors' opinions and the company's response should be specified:
 - Matters referred to in Article 14-3 of the Securities and Exchange Act: The Company has established an Audit Committee, and Article 14-3 of the Securities and Exchange Act is not applicable to the Company. Please refer to Page 39-41 of the Annual Report for related information of the operation status of the Audit Committee.
 - Other matters involving objections or expressed reservations by independent directors that were recorded or stated in writing that require a resolution by the board of directors: None.
- If there are directors' avoidance of motions in conflict of interest, the directors' names, contents of motion, causes for avoidance and voting should be specified:
 - Proposal for UMC's donation to UMC Science and Culture Foundation on February 26, 2020: Chairman Stan Hung and Director SC Chien were in conflict of interest and avoided the discussion and vote of the proposal since Chairman Stan Hung and Director SC Chien also served concurrently as the Directors of UMC Science and Culture Foundation. The proposal was approved without dissent by all other Directors in attendance.
 - Proposal for approving the distributable compensation for managerial officers on February 26, 2020, June 17, 2020, July 29, 2020, and September 2, 2020: Directors who also served concurrently as the Company's managerial officers were in conflict of interest and avoided the discussion and vote of the proposal. The proposal was approved without dissent by all other Directors in attendance.
- For the information of evaluation cycles, periods, scope, method and content of self-evaluation of the Board of Directors, please refer to the execution status of self-evaluation of the Board of Directors.
- Measures taken to strengthen the functionality of the board:

To implement corporate governance and enhance the Nomination and Election of the Board, the Company designated a Company Secretary in 2019, and the "Policy for Nomination and Election of Directors" and "Skill Matrix of Board Members," which are references for composition structure of the Board, are established by the Nominating Committee. In addition to conducting a board performance evaluation every year, the Company also engaged with TAIWAN CORPORATE GOVERNANCE ASSOCIATION to implement performance evaluation of the Board of Directors in 2020; please refer to the Company's website for the evaluation report: https://www.umc.com/en/IR_Director/directors_information

Note : Attendance rate is calculated using the number of meetings each board member actually attends and total number of board meetings held within his or her service period.

Execution Status of the Board Evaluation

Evaluation Cycle	Evaluation Period	Evaluation Scope	Evaluation Method	Evaluation Content
Annually	2020/1/1~2020/12/31	The Company's board self-evaluation scope covers the evaluation of the board, functional committees and individual board members.	Self-evaluation of the board, its functional committees and individual board members' performance	<p>1. The self-evaluation of the board of directors includes the following aspects:</p> <ol style="list-style-type: none"> (1) Participation in the operation of the company; (2) Improvement of the quality of the board of directors' decision making; (3) Composition and structure of the board of directors; (4) Election and continuing education of the directors; and (5) Internal control. <p>2. The self-evaluation of the functional committees includes the following aspects:</p> <ol style="list-style-type: none"> (1) Participation in the operation of the company; (2) Awareness of the duties of the functional committee; (3) Improvement of quality of decisions made by the functional committee; (4) Composition of the functional committee and election of its members; and (5) Internal control. <p>3. The self-evaluation of board members includes the following aspects:</p> <ol style="list-style-type: none"> (1) Familiarity with the goals and missions of the company; (2) Awareness of the duties of a director; (3) Participation in the operation of the company; (4) Management of internal relationships and communication; (5) The director's professionalism and continuing education; and (6) Internal control.

Operation of the Audit Committee

The Audit Committee assists the Board of Directors in performing its supervision functions. It is also responsible for tasks defined by the Company Act, Securities and Exchange Act and other relevant regulations. Since UMC is listed on the NYSE, it also has to comply with the U.S. regulations regarding foreign issuers. The Audit Committee is comprised of all independent directors, with 2 financial experts and operating according to the Audit Committee Charter (please refer to the Company's website at https://www.umc.com/upload/media/08_Investors/Corporate_Governance/Audit_Committee/Audit_Committee_Charter_Eng.pdf).

According to the relevant regulations, the Audit Committee shall convene at least four regular meetings per year. In 2020 a total of five meetings were convened; it shall also maintain good communication channels with the Company's internal auditors, independent auditors, and management.

The Audit Committee is responsible for periodic review of the following important annual matters :

- Financial statements
- Internal control system
- Material transactions of assets, derivatives, loans, endorsements, guarantees
- Audit plans of internal and external auditors and their execution status
- Engaging and removing the Company's independent auditors and accessing such auditors' remuneration and independence
- Risks and control procedures of compliance with government law
- Execution of documentation that involves government agencies
- Implementation of Whistleblower Program and Code of Conduct

Information of Audit Committee Operation

There were five Audit Committee meetings in 2020, and the attendance status is shown in the following table:

Title	Name	Attendance	Proxy Attendance	Actual Attendance Rate (%)	Note
Independent Director	Cheng-Li Huang	5	0	100.00	Audit Committee convener
Independent Director	Wenyi Chu	4	1	80.00	
Independent Director	Lih J. Chen	5	0	100.00	
Independent Director	Jyuo-Min Shyu	5	0	100.00	

Operation of the Audit Committee (Continue)

Other Matters to Be Recorded:

1. If the Audit Committee operates in any of the following circumstances, the date and session of the Board meeting, the content of motion, the resolution of Audit Committee, and the company's response to the opinion of the Audit Committee should be specified:

(1) Items listed in Article 14-5 of Securities and Exchange Act:

Date/Session of Board Meeting	Content of Motion	Resolution of the Audit Committee	Company's Response to the Opinion of the Audit Committee
February 26, 2020, the 13 th meeting of the 14 th session	<ol style="list-style-type: none"> 1. Approved the 2019 Consolidated Financial Statements (including Parent Company only Financial Statements). 2. Approved the 2019 Statement of Internal Control System. 3. Approved for UMC's Singapore branch to lend funds to United Semiconductor (Xiamen) Co., Ltd. 4. Approved issuing Restricted Stock Awards for employees. 5. Approved the content of appointed service and fee for the independent auditor appointed in 2020. 6. Approved the Company's donation to UMC Science and Culture Foundation. 	Approved by all members present in the meeting.	Approved by directors participating in the discussion and voting in the board meeting.
April 27, 2020, the 14 th meeting of the 14 th session	<ol style="list-style-type: none"> 1. Approved the Q1, 2020 Consolidated Financial Statements. 2. Approved the proposal for private placement based on future operation needs and will propose this at the 2020 Annual General Meeting for discussion. 	Approved by all members present in the meeting.	Approved by directors participating in the discussion and voting in the board meeting.
July 29, 2020, the 17 th meeting of the 14 th session	<ol style="list-style-type: none"> 1. Approved the Q2, 2020 Consolidated Financial Statements. 2. Approved to adjust the endorsement and guarantee of the loan for United Semiconductor (Xiamen) Co., Ltd. 3. Approved the disposal of machinery equipment to United Semiconductor (Xiamen) Co., Ltd. 	Approved by all members present in the meeting.	Approved by directors participating in the discussion and voting in the board meeting.

Operation of the Audit Committee (Continue)

Date/Session of Board Meeting	Content of Motion	Resolution of the Audit Committee	Company's Response to the Opinion of the Audit Committee
October 29, 2020, the 19 th meeting of the 14 th session	<ol style="list-style-type: none"> 1. Approved the Q3, 2020 Consolidated Financial Statements. 2. Approved to decrease the endorsement and guarantee of the loan for United Semiconductor (Xiamen) Co., Ltd. 3. Approved the Company to proceed with a potential investment to expand capacity. 	Approved by all members present in the meeting.	Approved by directors participating in the discussion and voting in the board meeting.
December 16, 2020, the 20 th meeting of the 14 th session	<ol style="list-style-type: none"> 1. Approved the revision of the internal control system and internal audit implementation rules. 2. Approved for UMC's Singapore branch to lend funds to United Semiconductor (Xiamen) Co., Ltd. 3. Approved to adjust the endorsement and guarantee of the loan for United Semiconductor (Xiamen) Co., Ltd. 4. Approved the loan commitment to banks for United Semiconductor (Xiamen) Co., Ltd. 	Approved by all members present in the meeting.	Approved by directors participating in the discussion and voting in the board meeting.
February 24, 2021, the 21 st meeting of the 14 th session	<ol style="list-style-type: none"> 1. Approved the 2020 Consolidated Financial Statements (including Parent Company only Financial Statements). 2. Approved the 2020 Statement of Internal Control System. 3. Approved the content of appointed service and fee for the independent auditor appointed in 2021. 4. Approved the Company's donation to UMC Science and Culture Foundation. 5. Approved termination of the issuance plan for private placement, which was approved at the 2020 Annual General Meeting. 6. Approved the proposal for private placement based on future operation needs and will propose this at the 2021 Annual General Meeting for discussion. 7. Approved the acquisition of the Right-of-Use Asset from subsidiary Wavetek Microelectronics Corporation. 8. Approved the issuance of unsecured straight corporate bonds. 9. Approved engagement in derivatives trading. 	Approved by all members present in the meeting.	Approved by directors participating in the discussion and voting in the board meeting.

- (2) There were no other resolutions that were not approved by the Audit Committee but were approved by two thirds or more of all directors in 2020.
2. Implementation of avoidance of independent director with respect to motion of stake: there was no such situation in the Audit Committee in 2020.
3. The communication channels between the independent directors, internal auditors, and independent auditors:
- (1) The Company's Audit Division sends the audit reports and follow-up reports on deficiencies to independent directors each month. Besides these measures, the Internal Audit head presents the findings of all audit reports and communicates follow-up reports with independent directors during the Audit Committee's quarterly meetings and semi-annually separate meeting.
 - (2) The Company's independent auditors present the findings of their review or audit reports regarding the financial results and internal control of the Company and its subsidiaries during the Audit Committee's quarterly meetings and separate meeting at least once a year. The independent auditors are also required to communicate to the Audit Committee the impact of IFRSs updates and announcements, any issues under applicable laws and regulations that might affect the financial reports, and whether to adjust the entries.
 - (3) The Internal Audit head, the independent auditors and independent directors can contact each other as needed. The communication channels are seamless.

For the communication between independent directors, internal audit head, and independent auditors, please refer to the Company's website: https://www.umc.com/en/IR_Audit/audit_committee.

Corporate Governance Implementation Status and Deviations from “The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies”

Evaluation Item		
	Yes	No
1. Does the company establish and disclose the Corporate Governance Best-Practice Principles based on “Corporate Governance Practice Principles for TWSE/TPEX Listed Companies?”	✓	
2. Shareholding Structure & Shareholders' Rights		
(1) Does the company establish an internal operating procedure to deal with shareholders' suggestions, doubts, disputes and litigations, and implement it based on the procedure?		✓
(2) Does the company possess the list of its major shareholders as well as the ultimate owners of those shares?	✓	
(3) Does the company establish and execute the risk management and firewall system within its conglomerate structure?	✓	
(4) Does the company establish internal rules against insiders trading with undisclosed information?	✓	
3. Composition and Responsibilities of the Board of Directors		
(1) Does the Board develop and implement a diversified policy for the composition of its members?	✓	
(2) Does the company voluntarily establish other functional committees in addition to the Remuneration Committee and the Audit Committee?	✓	

Implementation Status	Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies" and Reasons
Abstract Explanation	
The UMC Corporate Governance Practice Principles is posted on the Corporate Governance section of UMC's website for stakeholders to download. Please refer to: https://www.umc.com/upload/media/08_Investors/Corporate_Governance/Major_Internal_Policies/UMC_Corporate_Governance_Practice_Principles_20191030_eng.pdf .	None
UMC has designated a specific contact window (ir@umc.com) and included an Investor Relations section on the Stakeholder Contacts of the Company's website to deal with shareholders' suggestions, doubts, disputes and litigations. Please refer to the Company's website for stakeholders' contact: https://www.umc.com/en/Html/stakeholder_contacts .	UMC deals with shareholders' suggestions, doubts, disputes and litigation based on "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies." UMC does not establish an internal operating procedure.
UMC possesses the list of its major shareholders as well as the ultimate owners of those shares.	None
UMC has established relevant control mechanisms within its internal regulations and internal control systems in accordance with laws and regulations (including "Rules for Regulating Related Party Transactions").	None
UMC has formulated the Provisions on Insider Trading Prevention Policies and Control Procedures and is committed to advocating policies against insider trading.	None
UMC has established the Policy for Nomination and Election of Directors that takes into account the Company's organizational culture, business model and long-term development, and also established criteria to ensure the diversity of the Board members. The UMC Board of Directors comprises of 8 members, including 4 seats for independent directors and 1 for a non-executive director; 3 serve as administrative directors. More than half of the director seats are filled by members of outside companies. There is 1 seat currently reserved for a female director. Based on our policy of gender equality, UMC will increase the female director seats progressively. The tenures of independent directors are also diversified; there is 1 director that has served for 12 years, 1 director for 6 years and 2 directors for 3 years. The Board of UMC is composed of members with diversified backgrounds of industry, government and academy. The experiences of Board members include the president of national university, academician of Academia Sinica, the Minister of Science and Technology, the president of ITRI, financial experts in finance, accounting and strategy management fields, and professionals from the semiconductor industry and ICT business administration. The directors satisfy basic criteria and professionalism requirements, and through activities of the sub-committees, can also contribute their experiences to supervise and govern issues related to corporate governance, environmental sustainability, corporate social responsibility, legal compliance and human rights protection. Please refer to UMC's Policy for Nomination and Election of Directors for UMC Board diversification criteria, the Directors' Information and the Skill Matrix of Board members for implementation of Board diversification on the Company's website: https://www.umc.com/en/IR_Director/directors_information .	None
To meet the needs of industrial characteristics and operations, UMC has established the Capital Budget Committee. The Committee currently comprises of four independent directors and one external directors responsible for assisting UMC with its long-term development strategy, financial planning and business performance. For the sustainable development of UMC and assisting the Board with enhancing its management mechanism and improving corporate governance, UMC established the Nominating Committee. The Committee comprises of all independent directors who are responsible for searching and reviewing the candidate list of the directors and executives accordingly, executing the performance assessment of the directors and executives, and supervision of corporate governance. For information on the Capital Budget Committee and the Nominating Committee, please refer to UMC's website at https://www.umc.com/en/Html/capital_budget_committee and https://www.umc.com/en/Html/nominating_committee .	None

Corporate Governance Implementation Status and Deviations from “The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies” (Continue)

Evaluation Item	Yes	No
	<p>(3) Does the company establish a standard to measure the performance of the Board, and implement it annually? Are the implemented results reported to the Board, and used as a reference for individual directors' compensation and nomination renewal?</p>	✓
<p>(4) Does the company regularly evaluate the independence of CPAs?</p>	✓	
<p>4. Does the company have an adequate number of corporate governance personnel with appropriate qualifications and appoint a chief corporate governance officer to be in charge of corporate governance affairs (including but not limited to providing information for directors and supervisors to perform their functions, assisting directors and supervisors with legal compliance, handling matters relating to board meetings and shareholders meetings according to laws, producing minutes of board meetings and shareholders meetings)?</p>	✓	

Implementation Status	Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies" and Reasons
Abstract Explanation	
<p>UMC has formulated Rules for Performance Evaluation of the Board of Directors and implemented it accordingly.</p> <p>A. The Company conducted annual self-evaluation of the BOD, its functional committees and individual board members' performance.</p> <p>In 2020, the Nominating Committee conducted the self-evaluation of the Board of Directors, functional committees and individual board members and reported the result to the Nominating Committee and Board of Directors on February 24, 2021. The performance result was "Excellent." For a new director, the board provides proper orientation to enable him or her to understand his or her duties and to familiarize him or her with the Company's operation and environment.</p> <p>B. The performance of the Board is also implemented by an external independent professional institution or a panel of external experts and scholars at least once every three years. After the first performance evaluation conducted by an external assessment institution in 2018, the Company re-engaged with an external assessment institution to implement performance evaluation of the Board of Directors in 2020. Please refer to the Company's website for "The Rules for Performance Evaluation of the Board of Directors": https://www.umc.com/en/IR_Director/directors_information.</p> <p>The Company's Directors' Compensation is regulated in the Company's Articles of Incorporation. The Company shall allocate no more than 0.2% of profit as directors' compensation for each profitable fiscal year, and Directors' Compensation is linked to the performance of the Company's operation and the Board. According to the Policy for Nomination and Election of Directors, performance assessment of the board is used as a reference for nomination and election of Directors.</p>	None
<p>UMC's Audit Committee regularly evaluates the internal quality control procedures and independence of independent auditors, and is evaluated by the Board of Directors. The evaluation results of the most recent two years were completed on February 26, 2020 and February 24, 2021. The evaluation items are as follows:</p> <p>A. Auditor Independence Declaration.</p> <p>B. All audit and non-audit services provided by independent auditors are first reviewed by the Audit Committee to ensure that non-audit services do not influence audit outcome.</p> <p>C. The same independent auditor has not performed audit services for more than five consecutive years.</p> <p>D. UMC evaluates the independence and competence of the external auditor annually, including the size and reputation of the accounting firm, the nature and extent of providing non-audit services, peer review, quality of audit services, and external auditors' experience as well as the communication and interaction between external auditors, management and internal audit supervisors. The external auditor and the Audit Committee should have regular communication and interaction. Whether UMC's independent directors and relevant senior executives are independent from the external auditor. The Company does not appoint any individual who have served as an auditor in an accounting firm as a senior financial supervisor or who has the authority to make major decisions, or if there are any legal proceedings, etc.</p>	None
<p>Upon nomination by the Nominating Committee of UMC, the Board of Directors appointed Mr. Chitung Liu, the Senior Vice President and CFO of UMC, as the Chief Corporate Governance Officer on March 6, 2019. The position is accountable for corporate governance matters, including preparation and execution of agenda and matters relating to the Shareholders' Meeting, the Board, Audit Committee, Remuneration Committee, Capital Budget Committee and Nominating Committee, assistance in fulfilling requests by directors to perform duties and provide information, and is also responsible for ensuring legal compliance of the Board, promoting communication and dialogue between the management team and the directors, and among the board members, and communicating with the independent directors on corporate governance-related affairs on a regular basis every year. The Chief Corporate Governance Officer has been in a managerial position for at least three years in a public company in handling financial and stock affairs, and completed professional training in accordance with laws and regulations.</p>	None

Corporate Governance Implementation Status and Deviations from “The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies” (Continue)

Evaluation Item	Yes	No
5. Does the company establish a communication channel and build a designated section on its website for stakeholders (including but not limited to shareholders, employees, customers, and suppliers), as well as handle all the issues they care for in terms of corporate social responsibilities?	✓	
6. Does the company appoint a professional shareholder service agency to deal with shareholder affairs?	✓	
7. Information Disclosure		
(1) Does the company have a corporate website to disclose both financial standings and the status of corporate governance?	✓	
(2) Does the company have other information disclosure channels (e.g. building an English website, appointing designated people to handle information collection and disclosure, creating a spokesman system, webcasting investor conferences)?	✓	
(3) Does the company announce the annual financial report within 2 months after the end of the fiscal year, and announce the Q1, Q2, Q3 financial reports and monthly operation status before the deadlines?	✓	
8 Is there any other important information to facilitate a better understanding of the company's corporate governance practices (e.g., including but not limited to employee rights, employee wellness, investor relations, supplier relations, rights of stakeholders, directors' and supervisors' training records, the implementation of risk management policies and risk evaluation measures, the implementation of customer relations policies, and purchasing insurance for directors and supervisors)?	✓	
9. Please explain the improvements which have been made in accordance with the results of the Corporate Governance Evaluation System released by the Corporate Governance Center, Taiwan Stock Exchange, and provide the priority enhancement measures.		

Implementation Status	Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies" and Reasons
Abstract Explanation	
<p>UMC's Corporate Sustainability Committee is responsible for stakeholders and identifying issues across the Company. The Committee is also responsible for establishing consultation and communication channels with stakeholders in accordance with internal operational mechanisms, designating specialists to receive, record and respond to messages and input from various stakeholders. The Corporate Sustainability Committee conducts annual review of key corporate social responsibility issues and contingency plans to determine appropriate responses and publicly discloses relevant stakeholder communication information through the annual Corporate Social Responsibility Report and UMC's website, and at the same time reports key stakeholder concerns and countermeasures at Board meetings.</p>	None
<p>UMC has appointed Horizon Securities Co., Ltd., a professional shareholder service agency, to deal with shareholder affairs.</p>	None
<p>The Company has built a corporate website and exclusive webpage to publish up-to-date information for both financial standings and the status of corporate governance at all times for investors' reference. Please refer to the Company's website for related information: https://www.umc.com/en/IR/ir_overview.</p>	None
<p>The Company has built Chinese and English websites and appointed a designated person to handle information collection and disclosure, including the information of investor conferences. The Company also has designated a spokesperson, acting spokesperson(s), and a specific contact window (ir@umc.com) to deal with shareholders' suggestions as per regulation. Please refer to the Company's website for related information: https://www.umc.com.</p>	None
<p>The Company announces its monthly operation status within the prescribed deadlines and announces the annual and the quarterly financial reports before the deadlines. The Company's announcement of the 2020 annual financial report was completed on February 24, 2021.</p>	None
<p>(1) Continuing Education/Training of Directors: To strengthen the competency of the Board, UMC informs its directors periodically of professional courses held by relevant organizations. For Continuing Education/Training of Directors, please refer to pages 48-50 of this annual report.</p> <p>(2) Board meeting attendance: Please refer to Page 37-41 on Board of Directors Operations and Audit Committee Operations, and Page 57-59 on Remuneration Committee Operations in this annual report.</p> <p>(3) Risk management policies and risk measurement standards implementation: Please refer to Page 145 on Risk Management and Evaluation in this annual report.</p> <p>(4) Customer policy implementation: Please refer to Page 128 on Overview of Market, Production, and Sales in this annual report and the Corporate Social Responsibility Report on the UMC website at https://www.umc.com/en/Download/corporate_sustainability_reports.</p> <p>(5) Employee Rights, Employment Care, Investor Relations, Supplier Relationships and Stakeholders Rights Implementation: Please refer to the Corporate Social Responsibility Report on the UMC website at https://www.umc.com/en/Download/corporate_sustainability_reports.</p> <p>(6) The status of liability insurance for directors and supervisors purchased by the Company: UMC has purchased liability insurance for directors since 2000. The renewal of liability insurance for directors was completed in 2020 and was reported during the last Board Meeting.</p> <p>(7) UMC website for corporate governance policies and implementation: https://www.umc.com/en/Html/ir_corporate_governance.</p>	None
<p>UMC was in the top 5% of rankings in "Corporate Governance Evaluation" for six consecutive years since 2015. To implement corporate governance and enhance the Company's board functions, the Company designated a Company Secretary in 2019, and "Policy for Nomination and Election of Directors" and "Skill Matrix of Board Members" which are references for the composition structure of the Board are established by the Nominating Committee. To improve information transparency, the Company announces its financial reports within two months after the end of the fiscal year.</p>	

Continuing Education/Training of Directors in 2020:

Title	Name	Study Period		Sponsoring Organization	Course	Training Hours	Compliance with Regulations (Note)
		From	To				
Chairman	Stan Hung	2020.07.24	2020.07.24	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Development Trend, Model and Practice of Corporate Governance and Corporate Social Responsibility	3	Yes
		2020.10.27	2020.10.27	INDEPENDENT DIRECTOR ASSOCIATION TAIWAN	The Strategy and Tool Application of Employee Reward	3	Yes
		2020.11.25	2020.11.25	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Trend, Impact and Adaptive Strategy of U.S.-China Trade War and Global Change	3	Yes
Independent Director	Cheng-Li Huang	2020.09.21	2020.09.21	TAIWAN STOCK EXCHANGE CORPORATION	Corporate Governance 3.0 -Sustainable Development Roadmap Forum	3	Yes
		2020.09.22	2020.09.22	TAIWAN INSTITUTE OF DIRECTORS	KPMG Leadership Institute Forum: Response of Upheaval Risk and Enhancement of Corporate Governance	3	Yes
		2020.09.24	2020.09.24	SECURITIES & FUTURES INSTITUTE	Insider Trading Prevention and Insider Equity Trading Advocacy Meeting in 2020	3	Yes
		2020.11.25	2020.11.25	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Trend, Impact and Adaptive Strategy of U.S.-China Trade War and Global Change	3	Yes
Independent Director	Wenyi Chu	2020.10.16	2020.10.16	TAIWAN STOCK EXCHANGE CORPORATION	2020 Corporate Governance and Anti-corruption Seminar	3	Yes
		2020.11.25	2020.11.25	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Trend, Impact and Adaptive Strategy of U.S.-China Trade War and Global Change	3	Yes
Independent Director	Lih J. Chen	2020.09.11	2020.09.11	SECURITIES & FUTURES INSTITUTE	Insider Trading Prevention and Insider Equity Trading Advocacy Meeting in 2020	3	Yes
		2020.11.25	2020.11.25	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Trend, Impact and Adaptive Strategy of U.S.-China Trade War and Global Change	3	Yes

Continuing Education/Training of Directors in 2020:

Title	Name	Study Period		Sponsoring Organization	Course	Training Hours	Compliance with Regulations (Note)
		From	To				
Independent Director	Jyuo-Min Shyu	2020.03.24	2020.03.24	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Introduction of Ethical Corporate Management Best Practice Principles for TWSE/GTSM Listed Companies and ISO 37001 Anti-bribery management systems	1.5	Yes
		2020.05.12	2020.05.12	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Impact of COVID-19 on the Economy, Trade and Industry and its future prospects	1.5	Yes
		2020.08.18	2020.08.18	TAIWAN INSTITUTE OF DIRECTORS	Corporate Transformation in Revolution Age	3	Yes
		2020.09.21	2020.09.21	TAIWAN STOCK EXCHANGE CORPORATION	Corporate Governance 3.0 -Sustainable Development Roadmap Forum	3	Yes
		2020.11.25	2020.11.25	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Trend, Impact and Adaptive Strategy of U.S.-China Trade War and Global Change	3	Yes
Director	Ting-Yu Lin	2020.09.24	2020.09.24	SECURITIES & FUTURES INSTITUTE	Insider Trading Prevention and Insider Equity Trading Advocacy Meeting in 2020	3	Yes
		2020.11.25	2020.11.25	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Trend, Impact and Adaptive Strategy of U.S.-China Trade War and Global Change	3	Yes

Continuing Education/Training of Directors in 2020:

Title	Name	Study Period		Sponsoring Organization	Course	Training Hours	Compliance with Regulations (Note)
		From	To				
Representative of Juristic-Person Director	SC Chien	2020.09.11	2020.09.11	SECURITIES & FUTURES INSTITUTE	Insider Trading Prevention and Insider Equity Trading Advocacy Meeting in 2020	3	Yes
		2020.11.25	2020.11.25	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Trend, Impact and Adaptive Strategy of U.S.-China Trade War and Global Change	3	Yes
Representative of Juristic-Person Director	Jason Wang	2020.07.24	2020.07.24	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Development Trend, Model and Practice of Corporate Governance and Corporate Social Responsibility	3	Yes
		2020.10.27	2020.10.27	INDEPENDENT DIRECTOR ASSOCIATION TAIWAN	The Strategy and Tool Application of Employee Reward	3	Yes
Former Director	Chung Laung Liu	2020.04.28	2020.04.28	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	Adaptive Strategy of Corporate Restructuring	3	Yes
		2020.07.24	2020.07.24	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Development Trend, Model and Practice of Corporate Governance and Corporate Social Responsibility	3	Yes

Note: Regulations are Applicable Subjects, Continuing Education Hours, Continuing Education Scope, Continuing Education System and Continuing Education Arrangements and Information Disclosure specified in "Directions for the Implementation of Continuing Education for Directors and Supervisors of TWSE Listed and TPEX Listed Companies."

Continuing Education/Training of Managers in 2020:

Title	Name	Course Date	Organizer	Course Title	Course Hours
Senior Vice President & Chief Financial Officer	Chitung Liu	2020.01.14	ACCOUNTING RESEARCH AND DEVELOPMENT FOUNDATION	The Competent Authority Requires the Establishment of "Corporate Governance Director/Personnel" Practice Analysis	3
		2020.01.16	ACCOUNTING RESEARCH AND DEVELOPMENT FOUNDATION	Corporate Governance Practices: The Impact and Response of the Newly Released "Labor Litigation Act" on Companies	3
		2020.04.28	ACCOUNTING RESEARCH AND DEVELOPMENT FOUNDATION	Enhancing the Self-Editing Ability of Financial Reports: Internal Control, Internal Audit and Information Technology	3
		2020.06.16	ACCOUNTING RESEARCH AND DEVELOPMENT FOUNDATION	Common Corporate Governance Deficiencies and Related Laws and Regulations	3
President	SC Chien				
Executive Vice President	Ming Hsu				
Vice President	M C Lai				
Vice President	SR Sheu				
Vice President	Mindy Lin				
Vice President & Chief Human Resources Officer	Eric Chen				
Associate Vice President	Victor Chuang				
Associate Vice President	Chuck Chen				
Associate Vice President	Le Tien Jung	2020.07.03	UNITED MICROELECTRONICS CORP.	[2020 Master Forum] Global Economic Trends: Populism, COVID-19 and Negative Interest Rates	1.5
Associate Vice President	Yau Kae Sheu				
Associate Vice President	J Y Wu				
Associate Vice President	Osbert Cheng				
Associate Vice President	Remi Yu				
Associate Vice President	Michael CY Wang				
Associate Vice President	Ji Fu Kung				
Associate Vice President	C P Yen				
Associate Vice President	Pang Min Wang				
Associate Vice President	Ray Yang				

Continuing Education/Training of Managers in 2020:

Title	Name	Course Date	Organizer	Course Title	Course Hours
President	SC Chien				
President	Jason Wang				
Executive Vice President	Ming Hsu				
Senior Vice President	Oliver Chang				
Senior Vice President & Chief Financial Officer	Chitung Liu				
Vice President	TS Wu				
Vice President	G C Hung				
Vice President	Jerry CJ Hu				
Vice President	SR Sheu				
Vice President	M L Liao				
Vice President	S S Hong				
Vice President	Francia Hsu				
Vice President	Mindy Lin				
Vice President & Chief Human Resources Officer	Eric Chen				
Associate Vice President	Victor Chuang				
Associate Vice President	Chuck Chen	2020.07.07	UNITED MICROELECTRONICS CORP.	[Legal Course] Introduction of Trade Secrets Act	2
Associate Vice President	S F Tzou				
Associate Vice President	Le Tien Jung				
Associate Vice President	Yau Kae Sheu				
Associate Vice President	J Y Wu				
Associate Vice President	Steven Hsu				
Associate Vice President	Yanan Mou				
Associate Vice President	Remi Yu				
Associate Vice President	Michael CY Wang				
Associate Vice President	Ji Fu Kung				
Associate Vice President	C P Yen				
Associate Vice President	Pang Min Wang				
Associate Vice President	Ray Yang				
Former Associate Vice President	C Y Hsu				

Continuing Education/Training of Managers in 2020:

Title	Name	Course Date	Organizer	Course Title	Course Hours
Vice President	TS Wu				
Vice President	M C Lai				
Vice President	Jerry CJ Hu				
Vice President	Mindy Lin				
Vice President & Chief Human Resources Officer	Eric Chen				
Associate Vice President	Victor Chuang	2020.08.07	UNITED MICROELECTRONICS CORP.	【Executive Program】 Financial-Driven Capital Budgeting and Management Decision Quality	4
Associate Vice President	Chuck Chen	2020.08.14			
Associate Vice President	S F Tzou				
Associate Vice President	J Y Wu				
Associate Vice President	Osbert Cheng				
Associate Vice President	Michael CY Wang				
Associate Vice President	Pang Min Wang				
Associate Vice President	Ray Yang				
Chairman & Chief Strategic Officer	Stan Hung				
President	SC Chien				
President	Jason Wang				
Executive Vice President	Ming Hsu				
Senior Vice President	Oliver Chang				
Senior Vice President & Chief Financial Officer	Chitung Liu				
Vice President	TS Wu				
Vice President	G C Hung				
Vice President	Wenchi Ting				
Vice President	Jerry CJ Hu	2020.11.25	UNITED MICROELECTRONICS CORP.	China-US Economic and Trade Confrontation and Global Changes: Trends and Impact Strategies	3
Vice President	Y S Shen				
Vice President	Steven S Liu				
Vice President	M L Liao				
Vice President	S S Hong				
Vice President	Mindy Lin				
Vice President & Chief Human Resources Officer	Eric Chen				

Continuing Education/Training of Managers in 2020:

Title	Name	Course Date	Organizer	Course Title	Course Hours
President	SC Chien				
President	Jason Wang				
Executive Vice President	Ming Hsu				
Senior Vice President	Oliver Chang				
Vice President	TS Wu				
Vice President	M C Lai				
Vice President	Wenchi Ting				
Vice President	Jerry CJ Hu				
Vice President	SR Sheu				
Vice President	M L Liao				
Vice President	Mindy Lin				
Associate Vice President	Victor Chuang				
Associate Vice President	Chuck Chen	2020.12.01	UNITED MICROELECTRONICS CORP.	[2020 Master Forum] Business Changes and Challenges in the Next Ten Years	1.5
Associate Vice President	S F Tzou				
Associate Vice President	Yau Kae Sheu				
Associate Vice President	Osbert Cheng				
Associate Vice President	Steven Hsu				
Associate Vice President	Remi Yu				
Associate Vice President	Michael CY Wang				
Associate Vice President	Ji Fu Kung				
Associate Vice President	Pang Min Wang				
Associate Vice President	Ray Yang				
Associate Vice President	Louis Hsieh				

Continuing Education/Training of Managers in 2020:

Title	Name	Course Date	Organizer	Course Title	Course Hours
Senior Vice President	Oliver Chang				
Senior Vice President & Chief Financial Officer	Chitung Liu				
Vice President	TS Wu				
Vice President	Jerry CJ Hu				
Vice President	SR Sheu				
Vice President	M L Liao				
Vice President	Francia Hsu				
Vice President & Chief Human Resources Officer	Eric Chen	2020.12.02	UNITED MICROELECTRONICS CORP.	Three lines of Defense of Internal Control and Practical Case Sharing	2
Associate Vice President	Victor Chuang				
Associate Vice President	Chuck Chen				
Associate Vice President	Le Tien Jung				
Associate Vice President	Osbert Cheng				
Associate Vice President	Remi Yu				
Associate Vice President	Pang Min Wang				
Associate Vice President	Ray Yang				

Note: The implementation of the development plan for senior executives of each department was carried out, and the senior management training program planning will be based on the results in 2020. The senior executive courses are as follows:

[2020 Master Forum] A total of two sessions were held, with a total of 166 supervisors participating, and a course satisfaction rating of 92.8%.

[Executive Program] A total of two sessions were held, with a total of 59 supervisors participating, and a course satisfaction rating of 92.9%.

If the Company Has Adopted Corporate Governance Best-Practice Principles and Related Bylaws, Disclose How These Are to Be Searched

UMC's website has established a "Corporate Governance" section to explain the corporate governance policies and implementation. Investors can inquire about and download Corporate Governance related information from: https://www.umc.com/en/Html/ir_corporate_governance. For corporate governance implementation status, please refer to pages 37-92 of this annual report.

Procedures for Handling Proprietary/Strictly Confidential Information

These procedures were established to create an effective system for the handling and disclosure of proprietary/strictly confidential information to prevent inappropriate disclosure, ensure the consistency and accuracy of all information publicly released by the company and provide timely education for all directors, managers and employees to follow.

Please refer to the Company's website for related information: https://www.umc.com/en/Download/major_internal_policies.

Information on the Members of the Remuneration Committee

Status	Name/ Condition	Has at Least 5 Years of Work Experience and the Following Professional Qualifications			Meet Criteria of Independence (Note)										Number of Other Public Companies Where the Member Concurrently Serves as a Member in the Remuneration Committee		
		An Instructor or Higher Position in a Private or Public College or University in the Field of Business, Law, Finance, Accounting, or the Business Sector of the Company	A Judge, Prosecutor, Lawyer, CPA or Other Specialist or Technical Professional Who Is Necessary for the Company's Business and Has Been Certified by National Examinations and Licensed by the Competent Authorities	Work Experience Necessary for Business Administration, Legal Affairs, Finance, Accounting, or Business Sector of the Company	1	2	3	4	5	6	7	8	9	10			
Independent Director	Cheng-Li Huang	Yes	Yes	Yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
Independent Director	Wenyi Chu	Yes		Yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
Independent Director	Lih J. Chen	Yes		Yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
Independent Director	Jyuo-Min Shyu	Yes		Yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1

Note: For those members who match the condition listed below during and two years before the assuming period, "✓" is marked in the appropriate space.

- (1) Is not an employee of the Company or its affiliates.
- (2) Is not a director or supervisor of the Company or its affiliates (the same does not apply, however, in cases where the person is an independent director of the Company who serves concurrently as an independent director of its parent company, subsidiary, or subsidiary of the same parent company in accordance with the laws of Taiwan or with the laws of the country of the parent company, subsidiary or subsidiary of the same parent company).
- (3) Does not directly or indirectly own more than 1% of the Company's outstanding shares, nor is one of the top ten non-institutional shareholders of the Company.
- (4) Is not a spouse, relative within the second degree of kinship or lineal relative within the third degree of kinship of managers specified in column (1) or any person specified in columns (2) and (3).
- (5) Is not a director, supervisor or employee of a legal entity which directly owns more than 5% of the Company's issued shares or are among the top five owners of the Company's issued shares, nor a director, supervisor or employee of a legal entity which designates a representative to serve as a director or supervisor of the Company in accordance with Article 27, paragraph 1 or 2 of the Company Act (the same does not apply, however, in cases where the person is an independent director of the Company who serves concurrently as an independent director of its parent company, subsidiary, or subsidiary of the same parent company in accordance with the laws of Taiwan or with the laws of the country of the parent company, subsidiary or subsidiary of the same parent company).
- (6) Is not a director, supervisor or employee of other company, and more than half of directors or voting shares of other company are controlled by the same person (the same does not apply, however, in cases where the person is an independent director of the Company who serves concurrently as an independent director of its parent company, subsidiary, or subsidiary of the same parent company in accordance with the laws of Taiwan or with the laws of the country of the parent company, subsidiary or subsidiary of the same parent company).
- (7) Is not a director, supervisor or employee of other company, and Chairman, President or Manager with equivalent position of other company are the same person or spouse (the same does not apply, however, in cases where the person is an independent director of the Company who serves concurrently as an independent director of its parent company, subsidiary, or subsidiary of the same parent company in accordance with the laws of Taiwan or with the laws of the country of the parent company, subsidiary or subsidiary of the same parent company).
- (8) Is not a director, supervisor, or manager of a company which has a business relationship with the Company, nor a shareholder who owns more than 5% of such a company (the same does not apply, however, in cases where a company owns more than 20% but less than 50% of the Company's issued shares and the person is an independent director of the Company who serves concurrently as an independent director of its parent company, subsidiary, or subsidiary of the same parent company in accordance with the laws of Taiwan or with the laws of the country of the parent company, subsidiary or subsidiary of the same parent company).
- (9) Is not an owner, partner, director, supervisor, manager or spouse of any sole proprietor business, partnership, company or institution which has provided the Company and its affiliates with auditing or services of finance, business consultation and legal affairs for which the accumulated remuneration in the past two years does not exceed NTD 500,000, provided that this restriction does not apply to any member of the compensation committee, public tender offer review committee, or special committee on mergers and acquisitions who exercises powers pursuant to related regulations such as the "Securities and Exchange Act" or the "Business Mergers And Acquisitions Act."
- (10) Is not under any condition pursuant to Article 30 of the Company Act.

Operation of the Remuneration Committee:

The goal of the Remuneration Committee's operation is to strengthen corporate governance and risk control, and to evaluate and monitor the Company's remuneration system for its directors and executive officers while considering the provision of incentives to facilitate talent retention.

The main functions are to periodically review the policies and regulations for performance appraisal and remuneration of directors and executive officers, and to evaluate and prescribe the remuneration of directors and executive officers.

Annual Focus of the Remuneration Committee:

- Approval of directors' remuneration
- Manager performance and compensation structure review
- Approval of manager's salary and reward

Information of the Remuneration Committee Operation

1. The Company has a Remuneration Committee composed of four members.
2. Term of the current Committee: From June 12, 2018 to June 11, 2021.

The Company convened 5 Remuneration Committee meetings in 2020 with the following attendance:

Title	Name	Number of Actual Attendance	Number of Proxy Attendance	Rate of Actual Attendance (%)	Note
Independent Director	Wenyi Chu	4	1	80.00	Remuneration Committee convener
Independent Director	Cheng-Li Huang	5	0	100.00	
Independent Director	Lih J. Chen	5	0	100.00	
Independent Director	Jyuo-Min Shyu	5	0	100.00	

Note: Attendance Rate (%) is based on the committee member's attendance during her/his term of service.

Other Items That Shall Be Recorded:

1. If the Board of Directors chooses not to adopt or revise recommendations proposed by the Remuneration Committee, the date of the Directors' Meeting, session, contents of proposals, results of meeting resolutions, and the Company's disposition of opinions provided by the Remuneration Committee shall be described in detail (also, where the salary and compensation approved by the Directors' Meeting is better than that recommended by the Remuneration Committee, the differences and the reason for the approval shall be described in detail): None.
2. For the decisions made by the Remuneration Committee, if there are members who hold objection or reservation to a resolution and such objection or reservation is on record or raised through a written statement, the date, session, contents of proposals, all members' opinions, and ways in handling these opinions should be elaborated: None.
3. Major resolutions of the Remuneration Committee in 2020:

Date/ Meeting	Proposal	Resolution	The Company's Handling of the Opinions of the Remuneration Committee
February 26, 2020, The 6th meeting of the 4th session	1. Directors' 2019 remuneration 2. Review the structure of management team's compensation and performance evaluation system, and also propose the management team's compensation. 3. Revise the Remuneration Committee Charter.	Approved by all members present in the meeting.	Approved by directors participating in the discussion and voting in the board meeting.
April 27, 2020, The 7th meeting of the 4th session	1. Revise UMC Corporate Governance statement.	Approved by all members present in the meeting.	Approved by directors participating in the discussion and voting in the board meeting.
June 17, 2020, The 8th meeting of the 4th session	1. Management team's 2020 salary review 2. Proposal of management team's compensation structure	Approved by all members present in the meeting.	Approved by directors participating in the discussion and voting in the board meeting.

Date/ Meeting	Proposal	Resolution	The Company's Handling of the Opinions of the Remuneration Committee
July 29, 2020, The 9th meeting of the 4th session	1. Proposal of the management team's compensation	Approved by all members present in the meeting.	Approved by directors participating in the discussion and voting in the board meeting.
September 2, 2020, The 10th meeting of the 4th session	1. Proposal of the management team's compensation	Approved by all members present in the meeting.	Approved by directors participating in the discussion and voting in the board meeting.

Nominating Committee

The Nominating Committee, comprised of independent directors, shall assist the Board to enhance the management mechanism and to improve corporate governance with regard to the Company's sustainable development. The objectives of the Committee include: 1. To incorporate the nomination policy and succession plans of the directors and the executives and then search for, review and propose the candidate list of the directors and executives accordingly; 2. To construct and develop the operation of the Board and the sub-committees, as well as to plan and execute the performance assessment of the Board, the sub-committees and the executive(s); 3. To enhance corporate sustainability strategies, corporate governance system and practices in order to protect the interests of stakeholders.

Information of Nominating Committee Operation

- There are 4 members in the Nominating Committee.
- The term for elected committee members is 3 years, starting from June 12, 2018 to June 11, 2021. A total of 2 Nominating Committee meetings were held in 2020. The attendance of the committee members was as follows:

Title	Name	Attendance in Person	By Proxy	Attendance Rate (%)	Remarks
Convener	Lih J. Chen	2	0	100.00	
Committee Member	Cheng-Li Huang	2	0	100.00	
Committee Member	Wenyi Chu	1	1	50.00	Joined the meeting through conference call
Committee Member	Jyuo-Min Shyu	2	0	100.00	

Other mentionable items:

- If the Board of Directors declines to adopt or modifies a recommendation of the Nominating Committee, it should specify the date of the meeting, session, content of the motion, resolution by the Board of Directors, and the Company's response to the Nominating Committee's opinion: None.
- Resolutions of the Nominating Committee objected to by members or expressed reservations and recorded or declared in writing, the date of the meeting, session, content of the motion, all members' opinions and the response to members' opinion should be specified: None.
- Major resolutions of Nominating Committee in 2020:
Meeting on February 26, 2020
(1) Approved the Company's Policy and Procedures of Risk Management.

Note: Attendance Rate (%) is based on the committee member's attendance during her/his term of service.

Corporate Social Responsibility and Deviations from “The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies”

Evaluation Item	Yes	No
1. Does the company identify environmental, social and corporate governance issues related to the company's operations in accordance with the materiality principle?	✓	
2. Does the company establish exclusively (or concurrently) dedicated first-line managers authorized by the board to be in charge of proposing the corporate social responsibility policies and reporting to the board?	✓	

Implementation Status	Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies" and Reasons
Abstract Explanation	
<p>Through the Corporate Sustainability Committee, the Company keeps abreast of the development of domestic and foreign corporate social responsibility standards and changes in the corporate environment, reviews and improves the corporate social responsibility system of UMC, and identifies environmental, social and corporate governance issues related to the company's operations in accordance with the materiality principle.</p> <p>In addition, the Enterprise Risk Management Committee has also formulated enterprise risk management policies. Through risk management methods and organizations, the committee effectively prevents and controls enterprise risks, comprehensively implements them in daily operations, shapes and deepens the risk culture, and establishes complete and transparent risk communication to maintain steady operations. It also develops response strategies for major risk issues, regularly submits them to the Board of Directors for approval, and reviews and updates relevant standard operating procedures to ensure the effectiveness of risk management.</p> <p>For related risks (including environmental, social and corporate governance issues), please refer to the section "Risk Management and Evaluation" of this annual report and UMC Corporate Social Responsibility Report.</p>	None
<p>The Corporate Sustainability Committee is the highest-level corporate sustainability organization within UMC. With the Co-President as Chair, the Committee coordinates UMC's sustainable development and formulates corporate social responsibility strategies and objectives. The Committee conducts semi-annual reviews to improve performance and goal achievement. The representative reports promotion outcome and plans, and key stakeholder issues and countermeasures to the Board of Directors annually.</p> <p>The Corporate Sustainability Committee comprises of seven sub-committees, namely the Corporate Governance Committee, Customer Relationship Management Committee, Supplier Management Committee, Innovation Technology Committee, Human Rights and Social Participation Committee, Environment Committee and Green Manufacturing Committee. The functions of each sub-committee are briefly described below:</p> <ul style="list-style-type: none"> • Corporate Governance Committee Helps strengthen the function of the Board and shareholder equity, integrates related regulations and policies of relevant departments, and helps complete and implement the Company's internal control system to ensure information transparency and disclosure, and compliance with regulations. • Customer Relationship Management Committee Refines customer service and quality control, improves service quality and customer satisfaction, and protects customer interests and relevant trade secrets. • Supplier Management Committee To establish a protective environment and emphasize the obligation to society, labor rights, security and health while pursuing the goal of a continuously evolving supply chain, this sub-committee develops long-term partnerships with vendors for quality, cost leadership, delivery, service/response, and sustainability. • Innovation Technology Committee Promotes green product research and development and innovations, and leads in cutting-edge green technology. • Human Rights and Social Participation Committee Responsible for protecting the basic rights of employees and promoting communication with outside communities and society. Integrates the UMC Science and Culture Foundation, and with focus on education, arts, sports, public service and environmental protection, strives to promote technological research and development cooperation, long-term educational assistance, arts and sports activities and other social welfare events. • Environment Committee Promotes company-wide environmental, safety and health, energy, water and greenhouse gas emission management to enhance sustainable competitiveness. • Green Manufacturing Committee Promotes company-wide green processes, such as hazardous materials management and increases in resource productivity. 	None

Corporate Social Responsibility and Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies" (Continue)

Evaluation Item	Yes	No
	3. Environmental Issues	
(1) Does the company establish proper environmental management systems based on the characteristics of their industries?	✓	
(2) Does the company endeavor to utilize all resources more efficiently and use renewable materials which have low impact on the environment?	✓	

Implementation Status	Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEx Listed Companies" and Reasons
Abstract Explanation	
<p>To promote its environmental safety and health management system, UMC combines daily management and comprehensive quality management activities, and incorporates environmental safety management plans in to actual plant operations to achieve implementation goals. In terms of environmental safety and health risks in its operations, UMC systematically assesses the possible impact of all process activities from raw material use to waste production on the environment and employees. Projects with potentially significant environmental impact are managed and controlled through raw material assessment, substitution and reduction, process pollution source control and reduction, effective treatment of end-of-pipe pollution, and reuse of surplus by-products. Employee safety and health are fundamentally managed through equipment safety, chemical safety and operational safety.</p> <p>To achieve sustainable operations, UMC adopts a clean production and zero disasters approach to environmental protection and safety and health, and sets environmental health and safety management system goals every year. By promoting programs that reduce environmental impact and strengthen safety and health, UMC continuously improves its performance in environmental protection and safety and health management.</p>	None
<p>In 2001, UMC became the first company in Taiwan's semiconductor industry to pass integrated environmental protection, safety and health management system certifications. Please refer to the Environmental Protection, Safety and Health Management chapters in this annual report for details on greenhouse gas reduction and management, energy conservation management, water conservation management, waste and resource recovery management, and pollution discharge and control.</p> <p>For more detailed descriptions of various energy efficiency measures, please refer to UMC's Corporate Social Responsibility Report, which is summarized below:</p> <ul style="list-style-type: none"> • Green Building: UMC has incorporated energy conservation, carbon reduction and green building into its operational guidelines and goals, and introduced green building certification into all its new fabs. • Green Production: To achieve the goal of zero pollution, UMC has established a comprehensive new material evaluation process to effectively screen and control new materials introduced into the development of new processes so as to avoid or reduce the use of raw materials with environmental impact. • Green Process: The semiconductor process uses a wide variety of raw materials and requires high purity and high quality. Through improving process design and technology, UMC reduces raw material consumption, which not only reduces pollution emissions at the source, but also reduces operating costs. UMC has established a comprehensive information database to manage the incoming and requisition of raw materials for processing. In addition, in special projects to promote carbon credit, source reduction is achieved through process optimization, workflow improvement and target management. • Green Design: As a leader in semiconductor wafer technology, UMC not only ensures that its output wafers meet the low toxicity requirements of customers, but is also committed to reducing the environmental impact of manufacturing and developing numerous high-performance and low-cost chip design processes. • Green Products: Although UMC does not produce its own brands through its wafer process manufacturing, it continues to develop and incorporate numerous low-toxicity, low-energy green product technologies to provide customers with the most complete service for meeting the arrival of the green energy era. In 2006, UMC led global semiconductor manufacturers in completing third-party verification and audit of the Hazardous Substance Process Management (HSPM) system, becoming the first semiconductor manufacturer company in the world to obtain QC-080000 IECQ HSPM certification for all its fabs. • Packaging Material Management The materials used for shipping UMC products are in full compliance with the requirements of the European RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment). All packaging materials are supplied by raw material suppliers, and are verified by impartial laboratory reports. Packaging materials with low environmental impact are used as often as possible. • Resource Recycling and Reuse Research UMC prioritizes the reuse of recycled output waste, and continuously evaluates and introduces new technologies for reuse. UMC collaborates with qualified recycling vendors in applying for numerous recycling projects, and makes on-site improvements (such as changing liquid waste pipelines and segregated collection) to increase the types of recyclable waste. 	None

Corporate Social Responsibility and Deviations from “The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies” (Continue)

Evaluation Item	Yes	No
	(3) Does the company evaluate the potential risks and opportunities of climate change on its operations and take actions?	✓
(4) Does the company conduct inspections about greenhouse gas, water consumption, and total weight of waste for last two years, as well as establish company strategies for energy conservation, carbon reduction, management of water consumption, and total weight of waste?	✓	
4. Social Issues		
(1) Does the company formulate appropriate management policies and procedures according to relevant regulations and the International Bill of Human Rights?	✓	
(2) Does the company declare reasonable employee welfare measures (including salary remuneration policy, regulations for leaves and others) and integrate the company's performance with employees' reward?	✓	

Implementation Status	Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies" and Reasons
Abstract Explanation	
<p>In the face of climate change, UMC has formulated the UMC Climate Change Policy as the Company's highest guiding principle for responding to climate change. UMC has also formulated the UMC Low Carbon Commitment as a guide for future carbon reduction projects.</p> <ul style="list-style-type: none"> • Climate Change Policy <ul style="list-style-type: none"> Expectations to reach carbon neutral To be the low carbon solutions provider To promote the development of a low carbon economy • Low carbon Commitment <ul style="list-style-type: none"> Low-carbon design process Energy efficiency optimization Installing high efficiency FCs abatement in new tools Adopting green building standard for new buildings Carbon partnerships with customers and suppliers Complete carbon footprint inventory for all fabs Investing in the green technology industry • Greenhouse gas emission reduction goals <ol style="list-style-type: none"> 1. (2013-2025) <ul style="list-style-type: none"> Reduce fluorinated greenhouse gas emissions intensity by 65%. Note: 2010 is the base year. 2. (2016-2025) <ul style="list-style-type: none"> Reduce electricity consumption intensity by 15% in ten years. Note: 2015 is the base year. <p>In addition to the disclosure of greenhouse gas emissions, potential risks and opportunities of climate change, and related management and responding measures in the Corporate Social Responsibility Report, UMC also disclosed relevant information through involvement in international CDP organization initiatives.</p>	None
<p>The environmental information of UMC in the past five years, such as greenhouse gas emissions, water consumption, and total weight of waste, will be disclosed in the "UMC Corporate Social Responsibility Report" every year, and verified by a third party. UMC has also formulated the environmental protection policy, climate change policy and water resources management policy, and promoted the reduction plans and targets at various stages as a guideline for continuous improvement.</p>	None
<p>UMC supports and respects international initiatives such as the International Labor Office Tripartite Declaration of Principles, the OECD Guidelines for Multinational Enterprises, the UN Universal Declaration of Human Rights, the UN Global Compact, the Responsible Business Alliance (RBA) and other labor and gender equality laws for the workplace, and formulates relevant policies to protect human and labor rights. The UMC Human Rights and Social Participation Committee is responsible for promoting and overseeing human rights policies and specific management plans. For related information, please refer to the UMC website at https://www.umc.com/en/Html/UMC_code_of_conduct.</p>	None
<p>UMC conducts and implements a reasonable employee welfare system; please refer to the employee benefits of operations overview in this annual report. The factors that decide the salaries of employees include educational background, work performance and market value. No employee will be discriminated against because of their gender, race, religious beliefs, political stance or marital status.</p> <p>UMC complies with local statutory regulations and systems related to leaves, minimum wage, pension, and other mandatory benefits to safeguard the rights of our employees. In order to achieve personal, departmental and company performance goals as well as understand the job performance of employees, UMC conducts a performance evaluation of all employees every year. The information obtained can be used as a reference during employee promotions, training and when distributing compensation.</p>	None

Corporate Social Responsibility and Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies" (Continue)

Evaluation Item		
	Yes	No
(3) Does the company provide a healthy and safe working environment and organize training on health and safety for its employees on a regular basis?	✓	

Implementation Status	Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies" and Reasons
Abstract Explanation	
<p>The safety and health education and training at UMC are divided into three categories depending on the nature of the work:</p> <ul style="list-style-type: none"> • General safety and health education and training for the entire company • Factory area safety and health education and training organized by each fab • Safety and health education and training formulated by each department depending on its characteristics <p>"Safety First; Safety is Above Production!" is UMC's commitment to its employees, and is also the basis for UMC to carry out the planning and implementation of necessary safety and health education and training for its work and hazard prevention operations. Based on the organizational structure of UMC, the general training courses for the entire company; the factory area training courses for each fab; and the specific training courses for each department were formulated, allowing employees to develop a safety culture, raising their awareness in work safety, and reducing accidents caused by unsafe behaviors. In addition to the planned courses, topic-based training courses for specific events or major cases are also conducted on a rolling basis from time to time. For instance, the "executive safety culture seminars" for senior executives, the "supervisor safety awareness courses" for specific departments, and the professional trainings carried out by external occupational safety and health experts and scholars for UMC's occupational safety and health management personnel were organized in 2020. In 2020, a total of 2,082 sessions of education and training were conducted, with 38,776 participants completing the training. The offered education and training also include e-learning courses, allowing employees to acquire safety and health knowledge without being limited by the schedule of the physical courses.</p> <p>In the spirit of "Benefit from Society, Give Back to Society," UMC actively promotes healthy workplace-related activities. In 2020, UMC promoted a healthy workplace lifestyle themed "2020 Health Care 2.0."</p> <ol style="list-style-type: none"> 1. The themed health promoting activities attracted 21,296 participants, and overall satisfaction rate was 95%. Specifically, Q1 Spring - Epidemic Prevention Class In response to the spread of the COVID-19 epidemic, on-site activities in the first quarter have been cancelled and changed to online. At the same time, considering the severity of the epidemic, in order to strengthen colleagues' understanding of the Company's epidemic prevention policies, the online e-Check "Epidemic Prevention Class" questionnaire filling activity was conducted to strengthen employees' correct concept of epidemic prevention. A total of 5,965 colleagues participated in the event, and a total of 5,677 colleagues who answered the correct answers were drawn to obtain small epidemic prevention gifts (multifunctional mask storage clips) and a total of 1,000 gifts were issued. Q2 Summer – Family Care The epidemic has slowed and continued to implement a new life for epidemic prevention. UMC invited authoritative medical doctors from the National Taiwan University Zhudong Hospital to give a speech and teach UMC colleagues how to take care of their parents with the greatest peace of mind, so as to improve the quality of health and living at home. A total of 172 people participated, with an average total satisfaction score of 90.2. Q3 Autumn- Weight Loss and Fat Loss The "Weight Loss and Fat Loss Campaign" is aimed at the health check-up groups concerned for health care activities (BMI greater than 24) and the target physical check-up improvement rate is 5%. A total of 179 colleagues participated in the weight loss class, reaching a weight loss rate of $\geq 5\%$; a total weight loss of 266.5 kg, and an achievement rate of about 14.5%. A total of 150 people participated in the "Daily Ten Thousand Steps of Healthy Good Habit Activity" and 47 people reached the standard; the total number of days reached was 3,019, the achievement rate was about 31.1%. A total of 329 people participated in the third quarter activities. Q4 Winter - Heart and Liver Defense A total of 7,393 people participated in the reading activities on the "Health Information U-info" platform; a total of 14,373 people participated in the reading activities, 2,202 people clocked in from July to September, and the on-the-job participation rate was 56.1%. "Health Seminar U-Class" theme "Chinese Medicine" Autumn Health Post and "Western Medicine" Cancer Gene Decryption; a total of 457 employees participated and a satisfaction score of 96.2 was achieved. A total of 14,830 people overall participated. 2. 3,829 utilized massage services by visually impaired masseurs 3. 3,568 consulted with in-house physicians 4. 456 donated blood, totaling 722 bags of blood 5. 727 received abdominal ultrasound exam, and satisfaction rate was 96.5% 6. 582 received flu vaccinations, and satisfaction rate was 98% 7. A total of 440 training courses for emergency personnel were conducted, and the training rate was 100%. 8. There were 412 injuries and illnesses and emergency notifications. 9. There were 1,018 new medical examinations. 10. There were 262 high-level health examinations. 11. Administrative services (group health insurance) totaled 2,585 occasions 	None

Corporate Social Responsibility and Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies" (Continue)

Evaluation Item	Yes	No
(4) Does the company provide its employees with career development and training sessions?	✓	
(5) Does the company comply with relevant regulations and international standards about customers' health, safety, privacy, advertise and label of goods and services and establish consumer protection policy?	✓	

Implementation Status	Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies" and Reasons
Abstract Explanation	
<ul style="list-style-type: none"> • Protecting the health of employees and their families The Company provides physical and health checkups for employees, and based on the results, organizes health promotion activities for health management. Special operation inspectors are classified for case management, and doctors are hired to provide on-site health consultation services for employees. Effective health risk management and case management are implemented for all employees with abnormal test results. They are also included into the information system for monitoring and integrate the "health care system," thereby achieving 100% care rate. <ol style="list-style-type: none"> 1. In 2020, a total of 3,269 employees in the Company received physical checkup, and satisfaction rate was 93.8%. 2. Health examination reports and questionnaire outcomes were classified according to the risks. Health management and consultation by on-site doctors are then arranged accordingly to achieve 100% follow-up care. • Employee consulting and assistance program To assist employees with physical, mental and spiritual issues, the Company provides each employee with 6 free sessions of individual counseling per year. Appointments for individual counseling are arranged through a one-on-one privacy protection mechanism. In 2020, a total of 310 individuals received the free counseling service and 114 individuals received paid services. In 2020, the UMC Health Center continued to implement health promotion activities that were well-received and supported by employees. UMC's promotion and cultivation of a healthy workplace is deeply recognized by enterprises. In 2020, the UT site received the Excellent Self-Managed Healthy Workplace certification and obtained the health promotion badge. This award symbolizes the hard work that UMC put into cultivating a healthy workplace. It demonstrates UMC's active protection of employee health and concern for their physical and psychological well-being. 	
<p>The UMC training blueprints are based on different job categories and ranks. In addition, to encourage ongoing learning and career development, company-wide education and training plans for the following year are formulated according to the outcome of the annual executive and employee training needs survey.</p>	None
<p>UMC commits to continuously strengthen world-class process technology, manufacturing capability, and excellent service to enhance customer service value. Since the beginning, UMC always valued customers as partners and creates an exceptional business philosophy based on the spirit of "United for Excellence." UMC works closely with customers to achieve win-win mission and goals, hence rendering customer satisfaction as one of the core company's values. Customer-oriented behavior is to provide total solutions from a customer perspective to realize and satisfy customer requirements for product and service quality. To achieve this end, UMC has introduced the MyUMC, MyHJTC (for HJ only) and MyUSC (for USCXM only) online service platforms for customers to easily check product status such as order production status, shipping date and product quality data. In addition, the website also provides an Engineering Data Analysis function for customers to analyze product data as needed.</p> <p>In addition to providing customers with information on the process materials for their products through the MyUMC, MyHJTC, MyUSC and MyUSJC online service platforms, UMC has also incorporated the Voice of Customer (VOC) instant online complaint system within the MyUMC, MyHJTC, MyUSC and MyUSJC service platforms for customers to easily access. This interface allows customers to make requests, comments or suggestions about the Company's products or services at any time. The system replies to the customer within one working day regarding when their request has been processed by the corresponding division. A dedicated person then assigns the customer input to the appropriate division for handling and response, and customers can check the progress at any time on the website.</p>	None

Corporate Social Responsibility and Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies" (Continue)

Evaluation Item		
	Yes	No

Implementation Status

Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies" and Reasons

Abstract Explanation

UMC's measures for responding to customer complaints must meet customer demand for product and service quality. To this end, there is a regular review for customer complaints, handling progress and the quality of response to ensure that each division not only offers corresponding measures but also provides a subsequent series of related solutions to enhance overall customer satisfaction. UMC collects customer voice feedback in the VOC system and translates them into specific improvement actions for continuous and comprehensive improvement of the Company's product competitiveness and service quality.

MyUMC



MyHJTC (For HJ only)



MyUSC (For USCXM only)



MyUSJC (For USJC only)



Corporate Social Responsibility and Deviations from “The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies” (Continue)

Evaluation Item	Yes	No
(6) Does the company establish a supplier management policy and ask to comply with regulations about environmental protection, labor and human rights, safety, and health?	✓	
5. Does the company prepare a Social Responsibility Report that complies with international guidelines and is verified by a third party?	✓	
6. If the Company has established the corporate social responsibility principles based on “the Corporate Social Responsibility Best-Practice Principles for TWSE/TPEX Listed Companies,” please describe any discrepancy between the principles and their implementation:		
7. Other important information to facilitate better understanding of the company’s corporate social responsibility practices:		

Implementation Status	
Abstract Explanation	Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies" and Reasons
<p>For consumer protection mechanisms, in order to strictly protect customer-related information, UMC has established an external document management procedure. All specifications and technical documents from customers are strictly controlled by UMC's internal system. Therefore, we can prevent leakage of customer document and ensure the document is utilized and proceeded appropriately. In the future, UMC will continue to accumulate smart assets, provide better products and services, work with customers to challenge more difficult targets in technology development and production, and share win-win results with customers.</p> <p>UMC is certified with ISO 9001 & IATF 16949 & QC-080000 IECQ HSPM international standards. The Company's quality policies are based on these standards to provide customers with excellent product quality, reasonable price and excellent and timely service to enhance customer competitiveness. UMC adheres to the principle of continuous improvement. Through cultivating awareness in all employees, and control and technical improvement in design and production, UMC offers products that meet regulatory and customer demand for no harmful substance management, thereby fulfilling the Company's role as a responsible global citizens to ensure environmental protection and human health and safety.</p> <p>Certificates</p> 	
<p>Based on UMC's GG-026-004-C sustainable supply chain management review guidelines for achieving supply chains that fulfill environmental protection, social responsibility, labor and human rights, safety, health and sustainable development, UMC has formulated evaluations for reviewing the sustainable development of supply chains. The evaluation comprises a set of assessments to rate the sustainability of suppliers, and includes indicators such as delivery time, quality, finance and operations. Suppliers with unfavorable review outcome are offered audit counseling for improvement, and in the case of severe issues, procurement or status as qualified suppliers are terminated.</p> <p>UMC achieved fruitful results in the implementation of its sustainable management strategy 2020. We have been listed on the "DJSI-World" of the Dow Jones Sustainability Indices (DJSI) for 13 consecutive years, keeping pace with the world's top companies. In Taiwan, we continue to receive the greatest honor of being selected for the "FTSE4Good TIP Taiwan ESG Index" and winning the "Taiwan Corporate Sustainability Report Award" every year. Moreover, we continue to cultivate the aspects of "environment, society and governance," and have attracted tremendous external recognition.</p>	None
<p>As of 2020, UMC has publicly issued a non-financial related sustainability annual report for 20 consecutive years. At the same time, the 2019 UMC Corporate Social Responsibility Report is the 15th annual report disclosing UMC's corporate sustainable development. This report is compiled according to the GRI Standards of the Global Reporting Initiative, and is verified by a third party (certification body) in accordance with the Account Ability 1000 Assurance Standard. In 2021, UMC will compile the 2020 UMC Corporate Social Responsibility Report that will address major corporate social responsibility issues and stakeholder concerns, and will commission a third party to verify the report.</p>	None
<p>For details of the Corporate Social Responsibility Practice Principles formulated by UMC, please refer to https://www.umc.com/en/Download/major_internal_policies on the UMC website.</p> <p>The UMC corporate sustainable operations found on the UMC website shows no significance inconsistency from the Corporate Social Responsibility Best Practice Principles for TWSE/TPEX for Listed Companies. For other details, please refer to the "Corporate Social Responsibility" of this Annual Report and UMC Corporate Social Responsibility Report on the UMC website.</p>	
<p>UMC is a current member of Business Council for Sustainable Development of Taiwan (BCSD-Taiwan), Taiwan Corporate Sustainability Forum (TCSF), The Allied Association for Science Park Industries (ASIP) and Taiwan Semiconductor Industry Association (TSIA). In addition to actively promoting environmental safety and health and corporate sustainability activities, UMC also serves as a representative to provide recommendations to government and academic institutions in their formulation and development of corporate social responsibility policies.</p> <p>For other details, please refer to the UMC Corporate Social Responsibility Report and the Corporate Sustainability webpage at https://www.umc.com/en/CSR/sustainability_overview on the UMC website.</p>	

Ethical Corporate Management and Deviations from “The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies”

Evaluation Item	Yes	No
	1. Establishment of ethical corporate management policies and programs	
(1) Does the company declare its ethical corporate management policies and procedures approved by the Board of Directors, in its guidelines and external documents, implement the policies?	✓	
(2) Does the company establish policies to prevent unethical conduct, analyze and evaluate the risk of unethical conduct in operating scope periodically, at least including appropriate precautions against high-potential unethical conduct or listed activities stated in Article 2, Paragraph 7 of the Ethical Corporate Management Best-Practice Principles for TWSE/TPEX Listed Companies?	✓	
(3) Does the company establish policies to prevent unethical conduct with clear statements regarding relevant procedures, guidelines of conduct, punishment for violation, rules of appeal, and the commitment to implement the policies and recheck the policies periodically?	✓	
2. Fulfill operations integrity policy		
(1) Does the company evaluate business partners' ethical records and include ethics-related clauses in business contracts?	✓	
(2) Does the company establish an exclusively (or concurrently) dedicated unit supervised by the Board of Directors to be in charge of corporate integrity, implementation, and regularly report to the Board, at least one time a year?	✓	
(3) Does the company establish policies to prevent conflicts of interest and provide appropriate communication channels, and implement it?	✓	
(4) Has the company established effective systems for both accounting and internal control to facilitate ethical corporate management, and are they audited by Audit Division based on the results of assessment of the risk of involvement in unethical conduct to examine accordingly the compliance with the prevention programs? Or engage CPAs to carry out the audit?	✓	
(5) Does the company regularly hold internal and external educational trainings on operational integrity?	✓	

Implementation Status	Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies" and Reasons
Abstract Explanation	
<p>UMC has formulated the Code of Ethics for Directors and Officers, the Employee Code of Conduct, and the Ethical Corporate Management Best Practice Principles with approval by the Board of Directors, and the UMC Code of Conduct as regulatory guidelines for all directors, managers and employees of the Company. Please refer to the UMC websites at https://www.umc.com/en/Html/ir_corporate_governance and https://www.umc.com/en/Html/UMC_code_of_conduct.</p>	None
<p>The Employee Code of Conduct and the UMC Ethical Corporate Management Best Practice Principles are provisions for addressing moral integrity, conflict of interest avoidance and business entertainment. The Company also establishes a risk assessment mechanism against unethical conduct. Other relevant education, training or tests are conducted from time to time for employee education.</p>	None
<p>All suppliers have signed the Employment Ethics Terms and Conditions Agreement in which policies and reporting channels are clearly stated. Furthermore, to strengthen and implement policies on quality, penalties for violating the above Process Change Notification (PCN) are clearly stated in the purchase order in accordance with the UMC Raw Material Supplier PCN Application Management Method (GG-Q12-008-E).</p>	None
<p>The Corporate Sustainability Committee is the highest-level corporate social responsibility organization within UMC. The committee formulates the direction and objectives of the Company's corporate social responsibility and sustainable development, and reports to the Board of Directors annually. (Report Date is Oct. 29, 2020.) Ethical management is only one part of corporate sustainability. For further information, please refer to UMC website at https://www.umc.com/en/Html/UMC_code_of_conduct.</p>	None
<p>Please refer to Pages 81-85 of the Employee Code of Conduct for policies and reporting channels.</p>	None
<p>In order to facilitate ethical corporate management and issue a reliable, transparent and compliant report, UMC established an effective accounting system and designed relevant internal control systems based on evaluation results of risks including unethical conduct, code of conduct and regulations compliance. UMC Audit Division directly under the Board of Directors/Audit Committee performs relevant operation audits according to annual audit plans and regularly reports the audit results and improvement follow-up to the Board of Directors/Audit Committee. And through annual internal control and self-assessment, UMC has also conducted a self-review of all fab, department and subsidiary operations to achieve the effectiveness of internal control systems' design and implementation.</p> <p>In addition, UMC is also listed on the New York Stock Exchange (NYSE) and subject to US regulations for foreign issuers. Since 2006, UMC has complied with the SOX 404 Act and has been audited by the independent auditors annually. To date, the independent auditors have issued unqualified audit reports for UMC's internal control design and implementation performance.</p>	None
<p>In accordance with the philosophy of ethical management, UMC has formulated the Code of Ethics for Directors and Officers, the Employee Code of Conduct and the Ethical Corporate Management Best Practice Principles as regulatory guidelines for all its directors, managers and employees.</p> <p>From top down, these regulations enhance the quality of conduct and professional ethics of the Company and its entire staff. The abovementioned Employee Code of Conduct is implemented in the daily tasks and businesses of all employees through physical and on-line training courses and online self-tests.</p> <p>In 2020, UMC fabs in Taiwan and Singapore have completed the training courses and passed relevant tests.</p>	None

Ethical Corporate Management and Deviations from “The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies” (Continue)

Evaluation Item	Yes	No
	3. Operation of the integrity channel	
(1) Does the company establish both a reward/punishment system and an integrity hotline? Can the accused be reached by an appropriate person for follow-up?	✓	
(2) Does the company establish standard operating procedures for confidential reporting on investigating accusation cases and follow-up?	✓	
(3) Does the company provide proper whistleblower protection?	✓	
4. Strengthening information disclosure		
Does the company disclose its ethical corporate management policies and the results of its implementation on the company's website and MOPS?	✓	
5. The company has established its ethical corporate management policies based on the Ethical Corporate Management Best-Practice Principles for TWSE/TPEX Listed Companies; please describe any discrepancy between the policies and their implementation.		
6. Other important information to facilitate a better understanding of the company's ethical corporate management policies (e.g., review and amend its policies).		

Implementation Status	Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies" and Reasons
Abstract Explanation	
Article 6 of the Employee Code of Conduct describes measures against ethics and fraud violations, and protective and anti-retaliation measures for reporting. Employees may report violations to relevant management and supervisory units through e-mail or hotlines, and the head of the Audit Division is promptly notified of the report.	None
After receiving a fraud report, UMC will convene an investigative team to investigate the suspected fraud described in the report. Once the investigation results are confirmed, those found violating or breaching the Code of Conduct are to face adequate corrective action by the Company depending on the severity of the incident. The Company will protect any employee reporting ethics violation or fraud and members of the investigative team from unfair treatment or retaliation. For details, please refer to Pages 81-85 of the Employee Code of Conduct.	None
The Company will protect any employee reporting ethics violation or fraud and members of the investigative team from unfair treatment or retaliation. For details, please refer to Pages 81-85 of the Employee Code of Conduct.	None
UMC discloses its principles on ethical corporate management, relevant regulations and status of implementation on its website and MOPS. In addition, UMC discloses relevant information in its CSR Report.	None
UMC has formulated the Code of Ethics for Directors and Officers, the Employee Code of Conduct and the Ethical Corporate Management Best Practice Principles. All directors, managers and employees of the Company shall abide by the provisions of these Codes and related regulations. For employee compliance with the Employee Code of Conduct, please refer to Pages 81-85 of the Employee Code of Conduct in this annual report.	
For other relevant communications such as employee rights, employee care, investor relations, supplier relationships and stakeholder rights, please refer to the UMC Corporate Social Responsibility Report and the Corporate Sustainability webpage at https://www.umc.com/en/CSR/sustainability_overview on the UMC website.	

Ethical Corporate Management and Deviations from “The Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies” (Continue)

Specific Measures for Ethical Management in 2019-2020

Item	Implementation Status
Legal Compliance	<ul style="list-style-type: none"> • Inter-division regulatory compliance is coordinated by the Legal and Compliance Division, and other regulations are regularly reviewed by relevant divisions. • In 2019, the Legal and Compliance Division coordinated overall regulatory compliance with the EU General Data Protection Regulation. • With respect to the frequent rule changes of the Export Administration Regulations of the United States in 2020 and in the future, the Legal and Compliance Division coordinate overall legal compliance in this regard. • Legal and Compliance Division expects China will in the near future enact new export control related laws and/or regulations to counteract the rule changes to the Export Administration Regulations of the United States, and will coordinate overall legal compliance in this regard. • In 2020, the Legal and Compliance Division conducted trainings for insider trading targeting all employees, managers and executives.
UMC Code of Conduct Implementation	<ul style="list-style-type: none"> • The content of the Codes is reviewed biennially: <ol style="list-style-type: none"> 1. Review of the Employee Code of Conduct was completed in February 2020. 2. Relevant penal provisions were added to the Employee Code of Conduct in December 2017. • Major violations of employee ethics are reported to the Audit Committee on a quarterly basis. In 2020, no major ethical violations were reported. • Employee Code of Conduct education and testing were conducted in July 2020, with 100% completion rate. • Employee Code of Conduct training course for new employees: 224 participants and a total of 336 hours in 2019; and 305 participants and a total of 457.5 hours in 2020.
UMC fair competition, intellectual property rights violations	<ul style="list-style-type: none"> • Litigation cases in each quarter of 2020 were reported to the Audit Committee. • The UMC Antitrust Policy for promoting fair competition can be found on the UMC website, and online testing is conducted regularly. Online testing for the Fair Trade Law (i.e. the Antitrust Law) was conducted in December 2020. • For intellectual property rights education, three weekly training courses are offered to new employees: Introduction to UMC Intellectual Property Rights, Trade Secret and Basic Legal and Risk Awareness for Incoming Data. In the first half of 2019 we conducted in-depth advocacy of protection of intellectual property rights via the eUMC intranet site for all employees and the Company will maintain such advocacy through electronic checks or a dedicated compliance column. • Introduction to UMC Intellectual Property Rights training course for new employees: 285 participants and a total of 71.3 hours in 2019; and 797 participants and a total of 199.3 hours in 2020. • Trade Secrets training course for new employees: separate from UMC Intellectual Property Rights as an individual course since December 2018 with 285 participants and a total of 45.6 hours in 2019; and 797 participants and a total of 127.5 hours in 2020. • Basic Legal and Risk Awareness for Incoming Data training course for new employees: implemented since April 2018. A total of 285 participants and a total of 71.3 hours in 2019; and 797 participants and a total of 199.3 hours in 2020.
Financial reporting related internal control	<ul style="list-style-type: none"> • Annual audit by external auditors and internal Audit Division. • Results of internal audits for 2020 were reported at the Audit Committee/Board of Directors meetings on a quarterly basis.

Code of Ethics for Directors and Officers

The Board of Directors (the "Board") of United Microelectronics Corporation (the "Company") has adopted the following Code of Ethics (the "Code") for directors and officers of the Company. This Code applies to all directors and officers.

No code or policy can anticipate every situation that may arise. Accordingly, this Code is intended to serve as a source of guiding principles for directors and officers. Directors and officers are encouraged to bring questions about particular circumstances that may involve one or more of the provisions of this Code to the attention of the Chairman of the Board, who may consult with inside or outside legal counsel as appropriate.

Directors who also serve as officers of the Company should read this Code in conjunction with the Code of Ethics for employees governing the business conduct of Company employees.

1. Conflict of Interest.

Directors and officers must avoid any conflicts of interest between the director or officer and the Company. Any situation that involves, or may reasonably be expected to involve, a conflict of interest with the Company should be disclosed promptly to the Chairman of the Board, such as extending a loan to, providing a guarantee of the obligations of, conducting a material transaction with, selling products to or purchasing products from a director or officer (or a member of his or her immediate family¹).

A "conflict of interest" can occur when a director or officer's personal interest is adverse to - or may appear to be adverse to - the interests of the Company as a whole. Conflicts of interest also arise when a director or officer, or a member of his or her immediate family, receives improper personal benefits as a result of his or her position as a director or officer of the Company.

This Code does not attempt to describe all possible conflicts of interest that could develop. Some of the more common conflicts from which directors or officers must refrain are set out below:

- Relationship of the Company with third parties. Directors or officers may not engage in any conduct or activities that are inconsistent with the Company's best interests or that disrupt or impair the Company's relationship with any person or entity with which the Company has or proposes to enter into a business or contractual relationship.
- Compensation from non-Company sources. Directors or officers may not accept compensation (in any form) for services performed for the Company from any source other than the Company.
- Gifts. Directors or officers and members of their immediate families may not accept gifts from persons or entities who deal with the Company in those cases where any such gift has more than a nominal value or where acceptance of the gifts could create the appearance of a conflict of interest.
- Personal use of Company assets. Directors or officers may not use Company assets, labor or information for personal use unless approved

by the Chairman of the Board or as part of an approved compensation or expense reimbursement program.

2. Corporate opportunities.

Directors and officers are prohibited from: (a) taking for themselves personal opportunities that are discovered through the use of the Company's property, information or position; (b) using the Company's property, information, or position for personal gain; or (c) competing with the Company.

3. Corporate assets; confidentiality.

Directors and officers are expected to protect the assets of the Company and use them efficiently to advance the interests of the Company. Those assets include tangible and intangible assets, such as confidential Company information. Directors and officers should maintain the confidentiality of information entrusted to them by the Company and any other confidential information about the Company that comes to them, from whatever source in the course of the Company's business, in their capacity as director or officer except when disclosure is authorized or legally mandated. For purposes of this Code, "confidential information" includes all non-public information relating to the Company, its customers or suppliers.

4. Compliance with laws, rules and regulations; fair dealing.

Appropriate policies and procedures are in place for compliance by directors and officers, with laws, rules and regulations applicable to the Company, including insider trading laws. Transactions in the Company's securities are governed by the Company's policies with respect to trading such securities.

Directors and officers shall endeavor to deal fairly with the Company's customers, suppliers, competitors and employees. No director or officer should take unfair advantage of anyone through manipulation, concealment, abuse of privileged information, misrepresentation of material facts, or any other intentional unfair-dealing influence.

5. Accurate Reports and other Public Communications.

It is crucial that all books of accounts, financial statements and records of the Company reflect the underlying transactions and any disposition of assets in a full, fair, accurate and timely manner. All officers and directors who are involved in the Company's disclosure process are required to know and understand the disclosure requirements applicable to the Company that are within the scope of their responsibilities, and must endeavor to ensure that information in documents that the Company files with or submits to the ROC Securities and Futures Bureau and the U.S. Securities and Exchange Commission, or otherwise disclosed to the public, is presented in a full, fair, accurate, timely and understandable manner. Additionally, each individual involved in the preparation of the Company's financial statements must prepare those statements in accordance with our internal accounting policies, which take into account generally accepted accounting policies set forth by the IFRSs, IASs, IFRIC and SIC, which are endorsed by Financial Supervisory Commission (TIFRSs) and relevant laws and regulations applicable to the Company, ensure

Code of Ethics for Directors and Officers (Continue)

they are consistently applied, and follow any other applicable accounting standards and rules so that the financial statements materially, fairly and completely reflect the business transactions and financial condition of the Company.

6. Encouraging the reporting of any illegal or unethical behavior.

Directors and officers should promote ethical behavior and take steps to ensure the Company:

(a) encourages employees to talk to managers and other appropriate personnel when in doubt about the best course of action in a particular situation; (b) encourages employees to report violations of laws, rules, regulations, the Company's internal rules, or the Code of Ethics for employees to appropriate personnel; and (c) informs employees that the Company will not allow retaliation for reports made in good faith.

7. Compliance Procedures.

Any suspected violations of this Code should be reported promptly to managers, the internal auditor, the Audit Committee or other personnel as appropriate, or in the case of an officer in accordance with the procedures set forth in the Code of Ethics for employees. No one will be subject to retaliation because of a good faith report of a suspected violation. Violations will be investigated by the Board or by a person or persons designated by the Board. Any waiver of this Code may be made only by the Board and the details of the waiver, including name and title of the receiving party of the waiver, date of the board meeting when the waiver is granted, the validity period of waiver, reason to grant the waiver and principle for granting waiver, will be promptly disclosed to shareholders and others, as required by applicable law and the Taiwan Stock Exchange listing standards. All requests for waivers or review by the Board should be made to one of the Company's independent directors.

8. Enforcement of this Code of Ethics

The Board shall determine appropriate actions to be taken in the event of violations of this Code and set forth procedure for the person who is determined to have violated the Code in the event of disagreement with the determination. Such actions shall be reasonably designed to deter wrongdoing and to promote accountability for adherence to this Code. In determining the proper course of action in a particular case, the Board shall take into account all relevant information, including the nature and

severity of the violation, whether the violation appears to have been intentional or inadvertent and whether the individual in question had been advised prior to the violation.

1. "Immediate family" shall include a person's spouse, parents, children, and relatives within three degrees of kinship.

https://www.umc.com/upload/media/08_Investors/Corporate_Governance/Major_Internal_Policies/Code_of_Ethics_chi.pdf for the information shown above.

Employee Code of Conduct

I. Objective:

The company's objective in establishing this "Code of Conduct" is to promote ethics, honesty and professionalism within the company and among its employees. The company believes in being an integrated organization and that the action of every employee affects its entire organization and reputation. Any employee is obligated to strive for the extension of the Company's interests within legal limits, and is responsible for preventing damages or loss to the Company's interests. The company expects all employees to abide by this Code in carrying out their duties and functions so as to preserve public trust and to ensure the company's sustainable growth and development.

II. Scope:

This policy and its related procedures and measures are applicable to all employees (including senior executives and officers).

III. Content:

1. Morality and integrity

- 1-1. The company dedicates itself to abide by commercial ethics and firmly believes in the values of an integrated organization. This guideline has been introduced to outline applicable legal requirements and company policy required of the company and all employees. Any company employee with any query concerning ethics or legal matters is advised to consult with his or her division head or the company's legal division for guidance.
- 1-2. Ethical standards shall not be confined to legal compliance. Each individual shall be obligated to conduct all businesses ethically and to avoid any activity that would lead to a conflict of interest.
- 1-3. The principles governing ethics and integrity are comprised of:
 - 1-3-1. Conducting all business with integrity and truthfully recording the process of all business dealings.
 - 1-3-2. Ensuring proper confidentiality of all commercial information when executing a mission and retaining complete commercial and operational records, as well as respecting the commercial assets and intellectual properties of the company, each client and each strategic partner of the company.
 - 1-3-3. All company accounting ledgers, invoices, records, accounting entries, capital and assets must be securely cataloged and safeguarded to ensure that all company transactions and business dealings can be fairly and accurately reflected. It is strictly forbidden to fabricate, falsify or create misleading claims or to fabricate or falsify any accounting entries, records, financial reports or any other related documents, or to make any misleading claims or records, or intentionally hide or cover the state of the company's transactions; nor it is permitted to open, maintain or access any illegitimate accounts with any bank or a third party institution with which to conduct account transactions related to the company.
 - 1-3-4. It is forbidden to destroy, alter or forge any pertinent records that may likely be linked to an investigation, litigation or legal related settlement proceeding.
 - 1-3-5. When coming across incidents involving alleged unethical conduct or suspicions of violation to this rule, all personnel are obligated to inform the company's management.

2. Respect for individuals and customers:

- 2-1. The company respects the privacy and integrity of every employee and upholds strict standards of privacy and confidentiality for individual personal data. Treatment of customers and commercial data concerning other individuals shall also be bound by this principle of confidentiality.
- 2-2. Each employee should endeavor to deal fairly with the company's customers, suppliers, competitors and other employees. No employee should take unfair advantage of anyone through manipulation, concealment, abuse of privileged information, misrepresentation of material facts, or any other unfair-dealing practice.
- 2-3. The company is to maintain open communication channels that would encourage all employees to participate in company affairs and to express their opinions to supervisors of all levels.

Employee Code of Conduct (Continue)

3. Avoidance of conflict of interest:

- 3-1. Prior to engaging in any business, investment or related activity that may lead to a conflict of interest between personal and professional relationships, the employee must fully disclose such conflict of interest to, and the potential conflict must be subject to review by, the chairman & president's office. More detailed guidelines on conflicts of interest are set forth in the company's Rules of Integrity for the employees (as appendix I). All company personnel are obligated to file a report with the Human Resources Division of the company citing any probable conflict of interest that might concern the individual or the company.
- 3-2. Employees should avoid incidents that may involve a probable conflict of interest - for instance, an employee moonlighting at a non-affiliated company, or an employee negotiating or conducting business transactions with the company which would benefit such employee or the employee's family or relatives personally. Employees are prohibited to (a) take for themselves personal opportunities that are discovered through the use of corporate property, information or position, (b) use corporate property, information or position for personal gain and (c) compete with the company.
- 3-3. Any action that may possibly transfer the Company's resources or interests to employees, their relatives or friends is, in principle, prohibited. If such action is considered as beneficial for both the individual and the Company, it may be exceptionally permitted and proceeds only after obtaining the Chairman's approval. Please file a report with Appendix II.
- 3-4. All employees are prohibited to provide or disclose openly company confidential information without securing proper authorization from the company. It is strictly forbidden to trade confidential or insider information for individual gain, or to benefit others or put the company's interest in jeopardy.
- 3-5. All employees are forbidden to engage in any of the aforesaid activities through an agent, partner or any representative only to circumvent this guideline.
- 3-6. All personnel that participate in the review, evaluation and selection of vendors should avoid any circumstance that has the potential to bias a fair decision.
- 3-7. Unless otherwise approved by the board of directors in advance and in compliance with all applicable laws, employees are not permitted to take out or accept company loans on behalf of oneself or one's relative, or demand the company to issue a liability guarantee.
- 3-8. Unless for company business, advanced authorization shall be sought prior to accessing any of the company's services, equipment, facilities, properties or any other form of resources. All employees should protect the company's assets and ensure their efficient use. The company's assets, whether tangible or intangible, are to be used only by authorized employees or their designees and only for the legitimate business purposes of the company.
- 3-9. We request employees who have specific business and selected positions for management's needs and employees of designated departments to make an annual declaration of interests. If employees themselves or their relatives (up to the third degree) have investments in and/or are currently employed by UMC customers, distributors, distributors' customers, suppliers, or competitors, the status of such investments and/or employment should be reported in the "declaration of interests" system. The Human Resources Division will then be responsible for data collection and summarization in order to report results to senior executives, the President and the Chairman. However, in the case where such investment is made on firms that the Company invests in, have openly agreed to be invested in, or are of publicly listed companies, the report to superiors is not required.
- 3-10. All employees shall not exploit opportunities for information access (including but not limited to attendance at meetings related to sales and production, annual planning, policy launching) to disclose the Company's confidential information to any external parties (including but not limited to the Company's customers, suppliers, or any other parties who are not obliged to know).

4. Gratuity and business reception:

- 4-1. All employees are prohibited to accept from or give to any customer, supplier or contingent party related to the company any kickbacks or any other form of illicit gain.
- 4-2. All employees are strictly forbidden to accept gifts from the company's vendors valued at over one thousand N.T. dollars (NTD 1,000), or any cash, or any equivalent in monetary goods, i.e. gift certificates, check, stock certificate and the like.
- 4-3. All employees are forbidden to accept lavish entertainment or reception.
- 4-4. For the purpose of maintaining a normal business relationship, gifts that are to be presented to business counterparts should be imprinted with the company's logo.
- 4-5. It is prudent to conform to the general practice of common business decorum when accepting or arranging any type of business reception, and all employees shall refrain from being excessively lavish and refrain from incurring significant or unnecessary expenses.

Employee Code of Conduct (Continue)

5. Full, fair, accurate, timely and understandable disclosure:
 - 5-1. It is crucial that all books of account, financial statements and records of the company reflect the underlying transactions and any disposition of assets in a full, fair, accurate and timely manner.
 - 5-2. All employees who are involved in the company's disclosure process are required to know and understand the disclosure requirements applicable to the company that are within the scope of their responsibilities, and must endeavor to ensure that information in documents that the company files with or submits to the Securities and Futures Bureau, Financial Supervisory Commission, Executive Yuan, ROC and the U.S. Securities and Exchange Commission, or that is otherwise disclosed to the public, is presented in a full, fair, accurate, timely and understandable manner.
 - 5-3. It is critically important that financial statements and related disclosures be free of material errors. Employees are prohibited from knowingly making or causing others to make a materially misleading, incomplete or false statement to an accountant or an attorney in connection with an audit or any filing with any governmental or regulatory entity (such as the ROC Securities and Futures Bureau, Financial Supervisory Commission, Executive Yuan, ROC, the U.S. Securities and Exchange Commission or the New York Stock Exchange).
 - 5-4. No individual, or any person acting under his or her direction, shall directly or indirectly take any action to coerce, manipulate, mislead or fraudulently influence any of the company's auditors if he or she knows (or should know) that his or her actions, if successful, could result in rendering the company's financial statements materially misleading.
6. Safeguard Associated with the Implementation of Code of Conduct and Reporting of Fraudulent Act:
 - 6-1. All employees are to comply with applicable governmental laws, rules and regulations, and the company's regulations and procedures.
 - 6-2. Employees, suppliers, customers or other related stakeholders can report illegal activity or major misconduct by UMC managers or staff ("whistleblowing report") through any of the following channels:
 - 6-2-1. Send an email report to the email address whistleblower@umc.com which will then automatically forward a copy of the report to the Audit Committee, ADT Level 1 Manager, HR Level 1 Manager, and Legal and Compliance Level 1 Manager.
 - 6-2-2. Send an email report directly to any of the following: ADT Level 1 Manager: ADT_Director@umc.com; HR Level 1 Manager: HR_Director@umc.com; Legal and Compliance Level 1 Manager: z_Legal@umc.com; or the Audit Committee: Audit_committee@umc.com).
 - 6-2-3. Report the issue by calling the whistleblowing direct phone line at: 0800-024-399 (toll free) or 03-5782258 ext 31425.
 - 6-2-4. Report the issue directly to a manager in HR or any other appropriate department/division. Once the manager receives the report, they will immediately notify the ADT Level 1 Manager. Once a whistleblowing report has been received, the Company will assemble an investigation team to conduct a thorough inquiry into the allegations made in the report. More detailed guidelines on reporting processes are set forth in the company's Whistleblower Program.
 - 6-3. For the person reporting a violation of the Code of Conduct or engagement in fraud as well as any other related employee involved in all subsequent investigations of the violation, the company will provide safeguard measures ensuring them against any unfair retaliation or treatment.
 - 6-4. Those found violating or breaching the Code of Conduct are to face adequate corrective action by the company depending on the severity of the incident. It is the responsibility of each employee to carefully read, understand and comply with this Code of Conduct and, as needed, to seek clarification on any point. Questions regarding any legal or ethical requirements should be directed to the director of the Human Resources or the company's legal division.
7. Waivers and amendments:
 - 7-1. The company may waive application of this Code of Conduct to employees in certain limited situations. Any waivers of the provisions of this Code of Conduct for executive officers may be granted only in exceptional circumstances by the board of directors. The company will promptly disclose to its shareholders any such waivers granted to any of its executive officers and the reason for such waiver.
 - 7-2. Amendments to this Code of Conduct shall be promptly disclosed by the company. It is each individual's responsibility to maintain familiarity with this Code of Conduct as the company reviews and revises its content from time to time.

Employee Code of Conduct (Continue)

(Appendix) Rules of Employee Integrity

1. Objective: To maintain the common practice of integrity and business efficiency, the Rules of Employee Integrity has been specially stipulated.
2. While employees of the Company are engaged in all sorts of business practices, they should conform to the following principles:
 - 2-1. Any employee is obligated to strive for the extension of the Company's interests within legal limits.
 - 2-2. Any employee is responsible of preventing damages or loss of the Company's interests.
3. Rules of Integrity:
 - 3-1. Employees undertaking the business with vendors should adhere to the following principles:
 - 3-1-1. Be honest and fair while selecting vendors. Select those who present products/services with the most competitive quality, prices, and delivery.
 - 3-1-2. No accepting of rake-offs or other illegitimate interests from vendors.
 - 3-1-3. Employees and relatives are strictly forbidden to accept any gifts, cash, or other valuables worth of NTD 1,000 or above from vendors.
 - 3-1-4. In principle, employees are prohibited from accepting entertainment reception apart from simple meals. For any question regarding this principle, ask a direct superior.
 - 3-2. Employees in marketing or sales-related departments should adhere to the following principles when dealing with customers:
 - 3-2-1. Be honest and fair while transacting with customers.
 - 3-2-2. Customers' offer of gifts, cash, or other valuables should be courteously declined. In the case where such offer cannot be declined or returned and its value exceeds USD 100.00, please turn the item to the Employee Welfare Committee to be handled on a case-by-case basis.
 - 3-3. All employees should prevent any of the following from occurring and affecting the Company's interests:
 - 3-3-1. Through access to one's own duties, directly or indirectly seeking illegitimate interests or engaging in fraudulent activities.
 - 3-3-2. Seeking illegitimate interests through one's authority or identity to access duties not run or supervised by oneself.
 - 3-3-3. Defrauding others through access to one's own duties.
 - 3-3-4. Invading or stealing equipment or property from the company.
 - 3-3-5. Engaging in fraudulent activities such as over-filing for traveling expenses or overtime compensations or applying for inaccurate expenses.
 - 3-4. All employees have the responsibility of maintaining a clean image of the Company, which includes no gossiping about colleagues or superiors outside of the office.
 - 3-5. All supervisors must possess the ability of judging the rights and wrongs on integrity issues and should never use not regulated as excuses for any debatable conduct. Besides being honest themselves, they should lead subordinates in establishing a work environment practicing integrity.
 - 3-6. Acceptance inspectors or authenticator of each business operation as well as accounting examiners have the responsibility of reporting upon discover of those violating the Rules of Integrity.

Employee Code of Conduct (Continue)

4. Rewards and Punishment:

4-1. Rewards for reporting: Correcting or reporting on violations of integrity rules is an action of protecting the rights of employees, shareholders, and the Company. Once found to be factual, suitable rewards will be given to the reporter.

4-2. Punishment:

4-2-1. Punishment will be administered under any of the following occurrences:

- A. When an employee violates the Rules of Integrity.
- B. When a direct supervisor:
 - a. Causes his subordinate's violation of the integrity rules due to his improper supervision and guidance.
 - b. Shelters a violator of the integrity rules with knowledge of the incident.
- C. When an acceptance inspector, authenticator, or examiner of each business operation:
 - a. Overlooks a violation of the integrity rules due to his negligence on the job.
 - b. Fails to report on any violation of the integrity rules found during acceptance inspecting, authenticating, or examining.

4-2-2. Provisions on Punishment: In addition to recovering and returning the illegitimate benefits to the original owner or company, violators of the integrity rules will be inflicted, in proportion to the weight of the incident, with the following different punishments or the combination of them.

- A. According to internal punishment regulations
- B. Withholding of the performance cash award, year-end award and bonus
- C. Demotion of job grade
- D. Removal from post
- E. Legal action

4-3. Confession

4-3-1. In the case where the violator of the integrity rules makes the confession afterwards, his punishment may be reduced or waived.

4-3-2. In the case of a group violation of the integrity rules, the first one making the confession may be waived from his punishment.

Please refer to the website

https://www.umc.com/upload/media/08_Investors/Corporate_Governance/Major_Internal_Policies/Employee_Code_of_Conduct-e.pdf.

UMC Ethical Corporate Management Best Practice Principles

Article 1

In order to foster a corporate culture of ethical management and sound development, the company is advised to adopt these principles applicable to its subsidiaries and other institutions or juridical persons which are substantially controlled by such company.

Article 2

When engaging in its commercial activities, directors, managers, employees, and agents or persons having substantial control over such companies ("company personnel") shall not directly or indirectly offer, promise to offer, request or accept any improper benefits, nor commit unethical acts including breach of ethics, illegal acts, or breach of fiduciary duty ("unethical conduct") for purposes of acquiring or maintaining benefits.

Article 3

"Benefits" in these Principles means any element of value, including money, endowments, commission, positions, services, preferential treatment or rebates of any type or in any name. Benefits received or given occasionally in accordance with accepted social customs and that do not adversely affect specific rights and obligations shall be excluded.

Article 4

The company shall comply with the Company Act, Securities and Exchange Act, Business Entity Accounting Act, Political Donations Act, Anti-Corruption Statute, Government Procurement Act, Act on Recusal of Public Servants Due to Conflicts of Interest, TWSE/GTSM listing rules, or other laws or regulations regarding commercial activities, as the underlying basic premise to facilitate ethical corporate management.

Article 5

The company shall abide by the operational philosophies of honesty, transparency and responsibility, base policies on the principle of good faith and establish good corporate governance, risk control and management mechanisms to create an operational environment for sustainable development.

Article 6

According to its preceding policy, the company shall prescribe specific ethical management practices and programs to deter unethical conduct ("prevention programs"), including operational procedures, guidelines, and training.

Article 7

Company shall establish a risk assessment mechanism against unethical conduct, analyze and assess on a regular basis business activities within their business scope which are at a higher risk of being involved in unethical conduct, and establish prevention programs accordingly and review their adequacy and effectiveness on a regular basis.

Article 8

The company shall request their directors and senior management to issue a statement of compliance with the ethical management policy and require in the terms of employment that employees comply with such policy. The company clearly specifies in its rules and external documents the ethical corporate management policies and the commitment by the board of directors and the management on rigorous and thorough implementation of such policies, and carries out the policies in internal management and in commercial activities. The company shall compile documented information on the ethical management policy, statement, commitment and implementation mentioned in the first and second paragraphs and retain said information properly.

Article 9

The company engages in commercial activities in a fair and transparent manner based on the principle of ethical management. Prior to any commercial transactions, the company will take into consideration the legality of their agents, suppliers, clients, or other trading counterparties and whether any of them are involved in unethical conduct, and will avoid any dealings with persons so involved.

Article 10

When conducting business, the company and its personnel may not directly or indirectly offer, promise to offer, request, or accept any improper benefits in whatever form to or from clients, agents, contractors, suppliers, public servants, or other stakeholders.

Article 11

When directly or indirectly offering a donation to political parties, organizations or individuals participating in political activities, the company and its personnel shall comply with the Political Donations Act and their own relevant internal operational procedures, and shall not make such donations in exchange for commercial gains or business advantages.

UMC Ethical Corporate Management Best Practice Principles (Continue)

Article 12

When making or offering donations and sponsorship, the company and its personnel shall comply with relevant laws and regulations and internal operational procedures, and shall not surreptitiously engage in bribery.

Article 13

The company and its personnel shall not directly or indirectly offer or accept any unreasonable gifts, hospitality or other improper benefits to establish business relationship or influence commercial transactions.

Article 14

The company and its personnel shall observe applicable laws and regulations, internal operational procedures, and contractual provisions concerning intellectual property, and may not use, disclose, dispose, or damage intellectual property or otherwise infringe intellectual property rights without the prior consent of the intellectual property rights holder.

Article 15

The company shall engage in business activities in accordance with applicable competition laws and regulations, and may not make rigged bids, establish output restrictions or quotas, or share or divide markets by allocating customers, suppliers, territories, or lines of commerce.

Article 16

In the course of research and development, procurement, manufacture, provision, or sale of products and services, the company and its personnel observe applicable laws and regulations and international standards to ensure the transparency of information about, and safety of, their products and services. They shall also adopt and publish a policy on the protection of the rights and interests of consumers or other stakeholders, and carry out the policy in their operations, with a view to prevent their products and services from directly or indirectly damaging the rights and interests, health, and safety of consumers or other stakeholders.

Article 17

The personnel of the company shall exercise the due care of good administrators to urge the company to prevent unethical conduct, while always reviewing the results of the preventive measures and continually making adjustments so as to ensure thorough implementation of its ethical corporate management policies.

To achieve sound ethical corporate management, the relevant competent authority shall be responsible for establishing and

supervising the implementation of the ethical corporate management policies and prevention programs, and report to the board of directors annually.

Article 18

The personnel of the company shall comply with laws and regulations and the prevention programs when conducting business.

Article 19

The company shall adopt policies for preventing conflicts of interest to identify, monitor, and manage risks possibly resulting from unethical conduct, and shall also offer appropriate means for directors, managers, and other stakeholders attending or present at board meetings to voluntarily explain whether their interests would potentially conflict with those of the company.

Article 20

The company shall establish effective accounting systems and internal control systems for business activities that may possibly be at higher risk of being involved in unethical conduct, not have under-the-table or secret accounts, and conduct reviews regularly so as to ensure that the design and enforcement of the systems are showing results.

The internal audit unit of the company shall devise relevant audit plans based on the results of assessment of the risk of involvement in unethical conduct, which plans shall include parties to audit and audit scope, items and frequency etc., and examine accordingly the compliance with the prevention programs. The internal audit unit may engage a certified public accountant to carry out the audit, and may engage professionals to assist if necessary. The results of examination in the preceding paragraph shall be reported to senior management and the ethical management team and reduced to writing in the form of an audit report to be submitted to the board of directors.

Article 21

The company establishes "UMC Code of Conduct", "UMC Board of Directors and Managers Code of Ethics", and "UMC Employee Code of Conduct" to guide directors, supervisors, managers, employees, and substantial controllers on how to conduct business.

Article 22

The company shall periodically organize training and awareness programs for company personnel, and should execute reward and discipline systems according to the relevant rules of the company, so they understand the companies' resolve to implement ethical corporate management, related policies, prevention programs, and the consequences of engaging in unethical conduct.

UMC Ethical Corporate Management Best Practice Principles (Continue)

Article 23

The company shall establish a whistle-blowing system and guarantee the confidentiality of the identity of whistle-blowers and the content of reported cases.

Article 24

The company shall adopt and publish a well-defined disciplinary and appeal system for handling violations of the ethical corporate management rules, and shall properly make the announcement on the company's internal website including the title and details of the violation, and the actions taken in response.

Article 25

The company shall continuously assess the promotional effectiveness promotion of its ethical management policy. The company shall also disclose the measures taken for implementing ethical corporate management, the status of implementation, and the effectiveness of promotion on company websites, annual reports, and prospectuses, and shall disclose ethical corporate management best practice principles on the Market Observation Post System (MOPS).

Article 26

The company shall at all times monitor the development of relevant local and international regulations concerning ethical corporate management and encourage their directors, managers, and employees to make suggestions, which the company will base its review and improvements for its adopted ethical corporate management policies and measures in order to achieve better implementation of ethical management.

Article 27

The principles shall be implemented after the board of directors grants approval. The same procedure shall be followed when the principles have been amended.

Please refer to the website https://www.umc.com/upload/media/08_Investors/Corporate_Governance/Major_Internal_Policies/UMC_Ethical_Corporate_Management_Best_Practice_Principles_eng.pdf

Internal Control System Execution Status

Statement of Internal Control System

Based on the findings of self-assessment, UMC states the following with regard to its internal control system during the year 2020.

1. UMC acknowledges and understands that establishing, operating and maintaining an internal control system are the responsibilities of its Board of Directors and management, and such a system has been established. The purpose of establishing the internal control system is to reasonably assure the following objectives: The effectiveness and efficiency of operations (including profitability, performance and the safeguarding assets); reliability, timeliness, transparency of our reporting, and compliance with applicable rulings, laws and regulations.
2. The internal control system has inherent limitations. No matter how perfectly designed, an effective internal control system can only provide reasonable assurance of accomplishing the aforementioned three objectives. Moreover, the effectiveness of an internal control system may be subject to changes of environmental or circumstances. Nevertheless, our internal control system contains self-monitoring mechanism and UMC takes corrective actions whenever a deficiency is identified.
3. UMC evaluates the design and operating effectiveness of its internal control system based on the criteria provided in the Regulations Governing Establishment of Internal Control Systems by Public Companies (herein below, the "Regulations"). The criteria adopted by the Regulations identify five components of internal control based on the process of management control: (1) control environment, (2) risk assessment, (3) control activities, (4) information and communication, and (5) monitoring activities. Each component further contains several items. Please refer to the Regulations for details.
4. UMC has evaluated the design and operating effectiveness of its internal control system according to the aforesaid Regulations.

5. Base on the findings of the assessment mentioned in the preceding paragraph, UMC believes that, on December 31, 2020, its internal control system (including its supervision and management of subsidiaries), had effectively assured that the following objectives had been reasonably achieved during the assessing period: effectiveness and efficiency of operations, reliability, timeliness, transparency of our reporting, and compliance with applicable rulings, laws and regulations.
6. This Statement is an integral part of the UMC's annual report and prospectus, and will be made public. Any falsehood, concealment, or other illegality in the content made public will entail legal liability under Articles 20, 32, 171 and 174 of the Securities and Exchange Act.
7. This Statement was passed by the Board of Directors in their meeting held on Feb. 24, 2021, with none of eight attending directors expressing dissenting opinions, and the remainder all affirming the content of this Statement.

United Microelectronics Corporation

Chairman: Stan Hung



President: S C Chien



President: Jason S Wang



Feb. 24, 2021

If a Certified Public Accountant (CPA) was Engaged to Conduct a Special Audit of the Internal Control System, Provide its Audit Report:

According to "Regulations Governing Establishment of Internal Control Systems by Public Companies," the Company was not required to engage a certified public accountant (CPA) to conduct any special audit of the internal control system in 2020.

Legal Liabilities of Company and Employees, Company Penalties Toward Employee Violation of Company Regulations, Key Oversights and Improvement

None.

Major Resolutions and Implementation Status of the Shareholders' Meeting and the Board of Directors' Meetings

The Major Resolutions from the Shareholders' Meeting

The Company's 2020 Annual General Meeting was held at No.2, Prosperity 1st Rd., Hsinchu Science Park (101 Meeting Room of the Allied Association for Science Park Industries) on June 10, 2020. The resolutions approved by the shareholders present in person or by proxy and its implementation status were as follows:

Items	Resolutions from the Annual General Meeting	Implementation Status
1.	Acceptance of the 2019 business report and financial statements.	<ul style="list-style-type: none"> In 2019, UMC's sales revenue was NTD 148,201,641 thousand, and full-year net income reached NTD 9,707,614 thousand, leading to an earnings per share of NTD 0.82.
2.	Acceptance of the 2019 Earning Distribution Chart.	<ul style="list-style-type: none"> Distribution of 2019 earnings with cash dividend of NTD 9,765,154,720. The ex-dividend record date was set for July 21, 2020, and cash dividend for common shares was paid on August 5, 2020.
3.	Approval of issuing Restricted Stock Awards for employees.	<ul style="list-style-type: none"> Implemented in accordance with resolution and issued gratuitously 200,030,000 shares of common stock on September 1, 2020.
4.	Approval of the amendment of the Company's Articles of Incorporation.	<ul style="list-style-type: none"> Implemented in accordance with resolution.
5.	Approval of the issuance plan of private placement for common shares, preferred shares (including convertible preferred shares), DRs (including but not limited to ADS), or Euro/Domestic convertible bonds (including secured or unsecured corporate bonds). The amount of shares is proposed to be no more than 10% of total common shares issued plus the total common shares represented by the above equity-type securities which are fully issued.	<ul style="list-style-type: none"> Considering market conditions, it was resolved to terminate the private placement offering by the 21st meeting of the Board of Directors, 14th term.

Major Resolutions and Implementation Status of the Shareholders' Meeting and the Board of Directors' Meeting (Continue)

The Major Resolutions from the Board of Directors' Meetings

Meeting Date	Major Resolutions
2020.02.26	<ul style="list-style-type: none"> • Approved the 2019 Business Report and Financial Statements. • Approved the 2019 distributable compensation for employees and directors. • Approved the 2019 Dividend Distribution. • Approved capital budget execution. • Approved issuing Restricted Stock Awards for employees. • Approved the date of convening the 2020 Annual General Meeting, meeting agenda and submission period for shareholder proposals. • Approved for UMC's Singapore branch to lend funds to UNITED SEMICONDUCTOR (XIAMEN) CO., LTD. • Approved UMC's donation to UMC Science and Culture Foundation.
2020.04.27	<ul style="list-style-type: none"> • Approved the Q1, 2020 Consolidated Financial Statements. • Approved capital budget execution. • Approved the proposal for private placement based on future operation needs and will propose at the 2020 Annual General Meeting for discussion. • Approved addition of proposals of the 2020 Annual General Meeting and change of the location for convening the 2020 Annual General Meeting.
2020.06.05	<ul style="list-style-type: none"> • Approved the Company's 21st share repurchase program.
2020.06.17	<ul style="list-style-type: none"> • Approved to release the managerial officer from non-competition restrictions.
2020.07.29	<ul style="list-style-type: none"> • Approved the Q2, 2020 Consolidated Financial Statements. • Approved capital budget execution.
2020.10.29	<ul style="list-style-type: none"> • Approved the Q3, 2020 Consolidated Financial Statements. • Approved capital budget execution. • Approved the Company to proceed with a potential investment to expand capacity.
2020.12.16	<ul style="list-style-type: none"> • Approved capital budget execution. • Approved for UMC's Singapore branch to lend funds to UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.
2021.02.24	<ul style="list-style-type: none"> • Approved the 2020 Business Report and Financial Statements. • Approved the 2020 distributable compensation for employees and directors. • Approved the 2020 Dividend Distribution. • Approved termination of the issuance plan for private placement, which was approved at the 2020 Annual General Meeting. • Approved the proposal for private placement based on future operation needs and will propose at the 2021 Annual General Meeting for discussion. • Approved the date of convening the 2021 Annual General Meeting, meeting agenda and submission period for shareholder proposals. • Approved capital budget execution. • Approved the acquisition of the Right-of-Use Asset from subsidiary Wavetek Microelectronics Corporation. • Approved the issuance of unsecured straight corporate bonds. • Approved UMC's donation to UMC Science and Culture Foundation.

Major Issues of Record or Written Statements Made by Any Director Dissenting to Important Resolutions Passed by the Board of Directors During 2020 and as of the Annual Report Printing Date:

None.

Resignation or Dismissal of Chairman, President, and Heads of Accounting, Finance, Internal Audit, Corporate Governance and R&D During 2020 and as of the Annual Report Printing Date:

None.

Certification of Employees Whose Jobs Are Related to the Release of the Company's Financial Information

Certification Name	Number of Employees		
	Audit	Accounting	Finance
Certified Public Accountants (CPA)	2	18	1
US Certified Public Accountants (US CPA)		6	1
Association of Chartered Certified Accountants Singapore (ACCA Singapore)		1	
Certified Internal Auditor (CIA)	1	3	
CABIAV Certificate of Certified Business Valuator		2	1

Certified Public Accountant (CPA) Fee Information

For the Non-audit Fee Paid to the CPA, CPA Firm, and Its Affiliate Greater than 1/4 of the Audit Fee, the Amount of Audit and Non-audit Fee and Content of Non-audit Service Should Be Disclosed

None. Please refer to the following table.

In Thousand NTD

Name of CPA Firm	Name of CPA	Audit Fee	Non-audit Fees				CPA Audit Period	Remarks	
			System Design	Business Registration	Human Resources	Others (Note)			Subtotal
Ernst & Young, Taiwan	Wan-Ju Chiu, Hsin-Min Hsu	65,485	-	414	30	11,094	11,538	2020.01.01~ 2020.12.31	-

Note: The "Others" category within the non-audit fees mainly includes fees paid for consulting service, services to review the checklist of public disclosure and filing and reading of the annual report and prospectuses.

If the CPA Firm Changes, and the Audit Fee Paid in the Year of Such Change Is Reduced from the Audit Fee of the Previous Year, the Amounts of the Audit Fees Before and After such Change and the Reason of Such Change Should Be Disclosed

None.

If the Audit Fee Is Reduced by More than 10% from Last Year, the Amount, Ratio, and Reason for the Reduction of the Audit Fee Should Be Disclosed

None.

Information of CPA Change

None.

UMC's Chairman, Presidents, Chief Financial Officer, and Managers in Charge of Its Finance and Accounting Operations Did Not Hold Any Positions in UMC's Independent Auditing Firm or Its Affiliates in the Most Recent Year.

Change in Shareholding of Directors, Managers and Major Shareholders Who Own 10% or More of UMC Shares

Unit: Shares

Title	Name	2021		2020	
		Holding Increase (Decrease)	Pledged Holding Increase (Decrease)	Holding Increase (Decrease)	Pledged Holding Increase (Decrease)
Chairman, CSO	Stan Hung	0	0	9,385,000	0
Director	Hsun Chieh Investment Co., Ltd.	0	0	0	0
Director	Silicon Integrated Systems Corp.	0	0	0	0
Independent Director	Cheng-Li Huang	0	0	0	0
Independent Director	Wenyi Chu	0	0	0	0
Independent Director	Lih J. Chen	0	0	0	0
Independent Director	Jyuo-Min Shyu	0	0	0	0
Director	Ting-Yu Lin	0	0	0	0
President	SC Chien	0	0	2,300,000	0
President	Jason Wang	0	0	10,315,000	14,200,000
Executive Vice President	Ming Hsu	0	0	1,430,000	0
Senior Vice President	Oliver Chang	0	0	1,021,000	0
Senior Vice President, CFO	Chitung Liu	0	0	390,000	0
Senior Vice President, General Counsel	Lucas S Chang	0	0	150,000	0
Vice President	TS Wu	0	0	1,013,000	0
Vice President	C C Hsu	0	0	900,000	0
Vice President	M C Lai	0	0	1,350,000	1,350,000
Vice President	G C Hung	0	0	890,000	0
Vice President	Wenchi Ting	0	0	(750,000)	0
Vice President	Jerry CJ Hu	0	0	650,000	0
Vice President	Y S Shen	0	0	425,000	0
Vice President	Steven S Liu	0	470,000	1,350,000	0
Vice President	SR Sheu	0	0	0	0
Vice President	M L Liao	0	0	100,000	0

Change in Shareholding of Directors, Managers and Major Shareholders Who Own 10% or More of UMC Shares (Continue)

Unit: Shares

Title	Name	2021		2020	
		Holding Increase (Decrease)	Pledged Holding Increase (Decrease)	Holding Increase (Decrease)	Pledged Holding Increase (Decrease)
Vice President	S S Hong	0	0	0	0
Vice President	Francia Hsu	0	0	811,000	0
Vice President	Mindy Lin	0	0	716,000	0
Vice President, Chief Human Resources Officer	Eric Chen	0	0	750,000	0
Associate Vice President	Johnson Liu	0	0	30,000	0
Associate Vice President	Victor Chuang	0	0	220,000	0
Associate Vice President	Chuck Chen	0	0	161,799	0
Associate Vice President	S F Tzou	0	0	100,000	0
Associate Vice President	Le Tien Jung	0	0	330,000	0
Associate Vice President	Yau Kae Sheu	0	0	770,000	0
Associate Vice President	J Y Wu	0	0	450,000	0
Associate Vice President	Osbert Cheng	0	0	204,062	0
Associate Vice President	Steven Hsu	0	0	(40,000)	0
Associate Vice President	Purakh Raj Verma	0	0	0	0
Associate Vice President	Yanan Mou	0	0	0	0
Associate Vice President	Remi Yu	0	0	383,000	0
Associate Vice President	Michael CY Wang	0	0	0	0
Associate Vice President	Ji Fu Kung	0	0	277,000	0
Associate Vice President	C P Yen	0	0	106,000	0
Associate Vice President	Pang Min Wang	0	0	(77,000)	0
Associate Vice President	Ray Yang	0	0	370,000	0
Associate Vice President	Bellona Chen	0	0	420,000	0
Associate Vice President	Louis Hsieh	0	0	(700,000)	0
Former Director	Chung Laung Liu	N/A	N/A	0	0
Former Associate Vice President	C Y Hsu	N/A	N/A	0	0

Note 1: No shareholder owns 10% or more of UMC shares.

Note 2: The data presented for 2021 was gathered until January 31, 2021.

Note 3: Counterparts of the shareholding transferred or pledged are not related parties.

Note 4: The share changes for Oliver Chang, Ray Yang, Bellona Chen and Louis Hsieh are calculated starting from the assumed date.

Note 5: The shares change for Chung Laung Liu and C Y Hsu are reported until their resignation.

Note 6: The Holding Increase (Decrease) data consists of shares under Trust with Discretion Reserved.

Relationship Among the Top 10 Shareholders

Name	Shares Held		Shares Held by Spouse or Underage Children		Total Shares Held in the Name of Other Persons		Relationship Between the Company's Top 10 Shareholders Who Are Either Related Parties, Spouses, or Relatives Within the Second Degree of Kinship, His/Her/Its Title (or Name) and Relationship		Remarks
	Shares	%	Shares	%	Shares	%	Title (or Name)	Relationships	
JPMorgan Chase Bank, N.A. acting in its capacity as depositary and representative to the holders of ADRs	670,779,035	5.49	N/A	N/A	N/A	N/A	None	None	
Hsun Chieh Investment Co., Ltd.	441,371,000	3.61	N/A	N/A	N/A	N/A	None	None	
Representative: Chun Kuan	93,998	0.00	0	0	0	0	None	None	
Nan Shan Life Insurance Company, Ltd.	317,538,000	2.60	N/A	N/A	N/A	N/A	None	None	
Representative: Ying Tsung Tu	Data unavailable								
Silicon Integrated Systems Corp.	285,380,424	2.33	N/A	N/A	N/A	N/A	None	None	
Representative: Cheng Chien Chien	1,858	0.00	0	0	0	0	None	None	
Fubon Life Insurance Co., Ltd.	232,206,000	1.90	N/A	N/A	N/A	N/A	None	None	
Representative: Ming Hsing Tsai	Data unavailable								
Yann Yuan Investment Co., Ltd.	200,000,000	1.64	N/A	N/A	N/A	N/A	None	None	
Representative: Wen Ching Lin	Data unavailable								
Taiwan Life Insurance Co., Ltd.	192,555,000	1.58	N/A	N/A	N/A	N/A	None	None	
Representative: Ssu Kuo Huang	Data unavailable								
JPMorgan Chase Bank N.A., Taipei Branch in custody for Vanguard Total International Stock Index Fund, a series of Vanguard Star Funds	175,192,905	1.43	N/A	N/A	N/A	N/A	None	None	
Norges Bank - internal - NBIM PF EQ INTERNAL CFD	174,274,110	1.43	N/A	N/A	N/A	N/A	None	None	
Labor Pension Fund	133,116,000	1.09	N/A	N/A	N/A	N/A	None	None	

Note: The data shown above was recorded on July 21, 2020, which was the record date for the distribution of 2020 cash dividend.

Shares Held by the Company, Directors, Managers and Companies Directly or Indirectly Controlled by the Company, and the Comprehensive Shareholding Ratio Based on Combined Calculation

Investee Companies	UMC		Shares Held by Directors, Managers and Companies Directly or Indirectly Controlled by the Company		Comprehensive Shareholding	
	Number of Shares	Percentage of Ownership (%)	Number of Shares	Percentage of Ownership (%)	Number of Shares	Percentage of Ownership (%)
UMC Group (USA)	16,437,500	100.00	0	0	16,437,500	100.00
United Microelectronics (Europe) B.V.	9,000	100.00	0	0	9,000	100.00
UMC Capital Corp.	71,662,977	100.00	0	0	71,662,977	100.00
TLC Capital Co., Ltd.	400,167,103	100.00	0	0	400,167,103	100.00
Green Earth Limited	977,000,000	100.00	0	0	977,000,000	100.00
Fortune Venture Capital Corp.	401,734,448	100.00	0	0	401,734,448	100.00
UMC Investment (Samoa) Limited	1,520,000	100.00	0	0	1,520,000	100.00
MTIC Holdings Pte. Ltd.	12,000,000	45.44	0	0	12,000,000	45.44
Unitech Capital Inc.	21,000,000	42.00	2,500,000	5.00	23,500,000	47.00
Hsun Chieh Investment Co., Ltd.	364,102,314	36.49	0	0	364,102,314	36.49
Best Elite International Limited	664,966,275	100.00	0	0	664,966,275	100.00
Wavetek Microelectronics Corporation	148,112,434	80.75	3,150,936	1.72	151,263,370	82.47
UMC Korea Co., Ltd.	110,000	100.00	0	0	110,000	100.00
Omni Global Limited	4,300,000	100.00	0	0	4,300,000	100.00
United Semiconductor (Xiamen) Co., Ltd.	0	0	N/A	67.76	N/A	67.76
Faraday Technology Corporation	34,240,213	13.78	2,973	0.00	34,243,186	13.78
Yann Yuan Investment Co., Ltd.	46,000,000	30.87	0	0	46,000,000	30.87
Sino Paragon Limited	2,600,000	100.00	0	0	2,600,000	100.00
Triknighr Capital Corporation	234,280,000	40.00	0	0	234,280,000	40.00
United Semiconductor Japan Co., Ltd.	116,246,616	100.00	0	0	116,246,616	100.00
Unimicron Technology Corp.	196,136,008	13.36	4,545,000	0.30	200,681,008	13.66

Note 1: The investee companies are the investees under the equity method and funds.

Note 2: The number of shares is based on the actual number of shares held on December 31, 2020.



Capital Overview

- 100 Capital and Shares
- 106 Issuance of Corporate Bonds
- 111 Preferred Shares
- 112 American Depositary Receipts
- 114 Employee Stock Option Handling Status
- 114 Issuance of New Restricted Employee Shares
- 115 Status of New Shares Issuance in Connection with Mergers and Acquisitions
- 115 Financing Plans and Execution Status

Capital and Shares

Source of Capital

Month/Year	Issue Price (Per Share)	Authorized Capital		Paid-in Capital			Remarks	
		Shares (In Thousand)	Amount (In Thousand NTD)	Shares (In Thousand)	Amount (In Thousand NTD)	Source of Capital	Capital Increased by Assets Other than Cash	Other
March, 2020	NTD 10	26,000,000	260,000,000	11,773,994	117,739,944	Note 1	None	None
May, 2020	NTD 10	26,000,000	260,000,000	12,222,371	122,223,715	Note 2	None	None
September, 2020	NTD 10	26,000,000	260,000,000	12,422,401	124,224,015	Note 3	None	None

Note 1: On March 11, 2020, the Hsinchu Science Park Bureau, Ministry of Science and Technology approved the capital increase of NTD 496,757 thousand due to conversion of convertible bonds during the 4th quarter of 2020. The Company's paid-in capital was increased to NTD 117,739,944 thousand.

Note 2: On May 12, 2020, the Hsinchu Science Park Bureau, Ministry of Science and Technology approved the capital increase of NTD 4,483,771 thousand due to conversion of convertible bonds during the 1st quarter of 2021. The Company's paid-in capital was increased to NTD 122,223,715 thousand.

Note 3: On September 15, 2020, the Hsinchu Science Park Bureau, Ministry of Science and Technology approved the capital increase of NTD 2,000,300 thousand due to issuance of new Restricted Stock Awards for employees. The Company's paid-in capital was increased to NTD 124,224,015 thousand.

Note 4: The data shown above was gathered until February 24, 2021.

Type of Stock

Share Type	Authorized Capital		Allotment for Stock Option Certificate (Units)
	Issued Shares(Note 1)	Un-Issued Shares	
Common Stock	12,422,401,493	13,577,598,507	2,000,000,000

Note 1: The Company's issued shares are listed stock.

Note 2: The data shown above was gathered until February 24, 2021.

Information for Shelf Registration

Not Applicable.

Status of Shareholders

Common Shares

Item	Government Agencies	Financial Institutions	Other Juridical Persons	Natural Persons	Foreign Institutions and Natural Persons	Total
Number of Shareholders	14	73	721	504,773	1,753	507,334
Shareholding (Shares)	200,322,662	1,102,458,871	1,391,480,887	3,259,878,227	6,268,230,846	12,222,371,493
Percentage (%)	1.64	9.02	11.39	26.67	51.28	100.00

Note: The data shown above was recorded on July 21, 2020, which was the record date for the distribution of 2020 cash dividend.

Capital and Shares (Continue)

Shareholding Distribution Status

Common Shares

Class of Shareholding (Unit: Shares)		Number of Shareholders	Shareholding (Shares)	Percentage (%)
1~	999	188,169	56,450,686	0.46
1,000~	5,000	213,209	490,789,812	4.02
5,001~	10,000	51,379	382,625,952	3.13
10,001~	15,000	18,701	229,873,355	1.88
15,001~	20,000	10,394	185,976,409	1.52
20,001~	30,000	9,856	242,587,779	1.98
30,001~	50,000	7,024	275,119,274	2.25
50,001~	100,000	4,534	318,523,644	2.61
100,001~	200,000	1,975	273,930,534	2.24
200,001~	400,000	846	234,253,042	1.92
400,001~	600,000	294	144,896,143	1.18
600,001~	800,000	142	99,079,262	0.81
800,001~	1,000,000	100	90,081,910	0.74
	Over 1,000,001	711	9,198,183,691	75.26
Total		507,334	12,222,371,493	100.00

Note: The data shown above was recorded on July 21, 2020, which was the record date for the distribution of 2020 cash dividend.

Preferred Shares

None.

List of Major Shareholders

Shareholder's Name	Shareholding	
	Shares	Percentage (%)
JPMorgan Chase Bank, N.A. acting in its capacity as depositary and representative to the holders of ADRs	670,779,035	5.49
Hsun Chieh Investment Co., Ltd.	441,371,000	3.61
Nan Shan Life Insurance Company, Ltd.	317,538,000	2.60
Silicon Integrated Systems Corp.	285,380,424	2.33
Fubon Life Insurance Co., Ltd.	232,206,000	1.90
Yann Yuan Investment Co., Ltd.	200,000,000	1.64
Taiwan Life Insurance Co., Ltd.	192,555,000	1.58
JPMorgan Chase Bank N.A., Taipei Branch in custody for Vanguard Total International Stock Index Fund, a series of Vanguard Star Funds	175,192,905	1.43
Norges Bank - internal - NBIM PF EQ INTERNAL CFD	174,274,110	1.43
Labor Pension Fund	133,116,000	1.09

Note: The data shown above was recorded on July 21, 2020, which was the record date for the distribution of 2020 cash dividend.

Capital and Shares (Continue)

Market Price, Net Worth, Earnings, and Dividends Per Common Share

Item		2021 (Note 7)	2020	2019	
Market Price Per Share (Note 1)	Highest	59.40	51.70	17.05	
	Lowest	44.00	13.10	10.55	
	Average	52.04	28.13	13.63	
Net Worth Per Share	Before Distribution	-	19.00	17.61	
	After Distribution	-	*	16.78	
Earnings Per Share	Weighted Average Shares (shares)	-	12,072,969,148	11,785,108,150	
	Earnings Per Share (Note 2)	-	2.42	0.82	
	Earnings Per Share (Note 3)	-	*	0.82	
Dividends Per Share	Cash Dividends	-	*	0.80395653	
	Stock Dividends	Earning Distribution	-	*	-
		Capital Distribution	-	*	-
	Accumulated Undistributed Dividend	-	-	-	
Return on Investment	Price/Earnings Ratio (Note 4)	-	9.45	16.24	
	Price/Dividend Ratio (Note 5)	-	*	16.57	
	Cash Dividend Yield (Note 6)	-	*	0.06	

*Subject to change based on resolutions of the 2021 shareholders' meeting.

Note 1: Referred to TWSE website.

Note 2: EPS calculation was based on weighted average shares outstanding for the year.

Note 3: EPS calculation was based on retroactive adjustment for capitalization of unappropriated earnings, additional paid-in capital and employees' compensation - stock.

Note 4: Price/Earnings Ratio = Average Market Price/Earnings Per Share.

Note 5: Price/Dividend Ratio = Average Market Price/Cash Dividends Per Share.

Note 6: Cash Dividend Yield = Cash Dividends Per Share/Average Market Price.

Note 7: The data represented for 2021 was gathered until February 24, 2021.

Note 8: The average closing prices for years 2019, 2020 and 2021 were NTD 13.32, NTD 22.88, and NTD 52.06, respectively.

Capital and Shares (Continue)

Dividend Policy and Status

1. Dividend Policy in Company's Articles of Incorporation

According to the Company's Articles of Incorporation, current year's earning, if any, shall be distributed in the following order:

- (1) Payment of taxes.
- (2) Making up for loss in preceding years.
- (3) Setting aside 10% for legal reserve, except for when accumulated legal reserve has reached the Company's paid-in capital.
- (4) Appropriating or reversing special reserve by government officials or other regulations.
- (5) The remaining, plus the previous year's unappropriated earnings, shall be distributed according to the distribution plan proposed by the Board of Directors according to the dividend policy in paragraph two of this clause and submitted to the shareholders' meeting for approval.

The dividend policy of the Company shall be determined pursuant to factors such as the investment environment, its funding requirements, domestic and overseas competitive landscape and its capital expenditure forecast, as well as shareholders' interest, balancing dividends and UMC's long-term financial planning. The Board of Directors shall propose the distribution plan and submit it to the shareholders' meeting every

year. The distribution of shareholders' dividend shall be allocated as cash dividend in the range of 20% to 100%, and stock dividend in the range of 0% to 80%.

2. The Company's operating status, funding requirements, capital expenditure forecast, changes in the overall internal and external environment, as well as shareholders' interest shall be taken into account to determine the Company's dividend policy; distribution of dividend is determined by the Board of Directors, and the principle of distribution shall not be lower than 50% of the Company's earnings after tax of the year without considering other extraordinary situations.

Proposed Distribution of Dividend

The Company's proposal for 2020 earnings distribution was passed during the 21st board meeting of the 14th term. This proposal, a cash dividend of NTD 19,875,842,389 from retained earnings (NTD 1.60 per share), will be discussed at the Annual General Meeting.

Effect of Share Dividends to Operating Performance and EPS

Not applicable.

Capital and Shares (Continue)**Employees' and Directors' Compensation****Related Information of Employees' and Directors' Compensation in the Company's Articles of Incorporation**

Employees' and Directors' Compensation Policy in the Company's Articles of Incorporation is as follows:

The Company shall allocate no less than 5% of profit as employees' compensation and no more than 0.2% of profit as directors' compensation for each profitable fiscal year after offsetting any cumulative losses.

The aforementioned employees' compensation will be distributed in shares or cash. The employees of the Company's subsidiaries who fulfill specific requirements stipulated by the Board of Directors may be granted such compensation. Directors may only receive compensation in cash.

The Company may, by a resolution adopted by a majority vote at a meeting of the Board of Directors attended by two-thirds of the total number of directors, distribute the aforementioned employees' and directors' compensation and report to the shareholders' meeting for such distribution.

The Basis for Estimating the Amount of Employees and Directors' Compensation, the Basis for Calculating the Number of Shares to Be Distributed as Employees' Compensation, and the Accounting Treatment of the Discrepancy Between the Actual Distributed and the Estimated Amount.

The Company recognizes the employees and directors' compensation in the profit or loss during the periods when earned. The Board of Directors estimates the amount by taking into consideration the Articles of Incorporation, government regulations and industry averages. If the Board of Directors resolves to distribute employee compensation through stock,

the number of stock distributed is calculated based on total employee compensation divided by the closing price of the day before the Board of Directors meeting. If the Board of Directors subsequently modifies the estimates significantly, the Company will recognize the change as an adjustment in the profit or loss in the subsequent period. Information relevant to the aforementioned employees and directors' compensation can be obtained from the "Market Observation Post System" on the website of the TWSE.

The Distributable Compensation for Employees and Directors Passed During the Board Meeting.

The Company's 2020 distributable compensation for employees and directors was passed during the 21st board meeting of the 14th term. The distribution status is as follows:

The Company is to distribute NTD 2,581,674,949 as employee cash compensation and NTD 32,368,656 as directors' compensation.

There is no difference between the amount passed during the Board meeting and the recognized amount during 2020 of the aforementioned employees' and directors' compensation.

The Amount of Employees' Compensation Distributed in Stocks, and Such Amount as a Percentage of the Sum of Net Income Stated in the Parent Company Only Financial Reports and Total Employees' Compensation:

None.

Distribution of Employees and Directors' Compensation for 2019:

In Thousand NTD

Item	Board Resolution (February 26, 2020)
Employees' compensation distributed in Cash	1,132,952
Directors' compensation	10,259

Note: The actual distribution of employees and directors' compensation for 2019 were consistent with the resolutions of the Board of Directors meeting held on February 26, 2020.

Buyback of Treasury Stock

(1) Completed Share Buyback Program

Instance	21 st round
Purpose	Transfer to employees
Buyback period	2020.06.08~2020.08.07
Price range (NTD)	11.55~23.25
Classification and executed volume (Shares)	105,000,000 Common shares
Executed amount (NTD)	1,678,271,840
Ratio of executed volume to the volume to be repurchased (%)	52.50
Cancellation and transfer volume (Shares)	105,000,000
Cumulative holding (Shares)	0
Cumulative holding as a percentage of total issued shares (%)	0

Note: The data shown above was gathered until February 24, 2021.

(2) Uncompleted Share Buyback Program: None.

Issuance of Corporate Bonds (Continue)

Issuance of Corporate Bonds

Name of Bond	United Microelectronics Corporation 1 st Unsecured Straight Corporate Bond Issuance in 2013
Issue date	March 15, 2013
Denomination	NTD 1 million
Listing and trading	Taipei Exchange
Issue price	NTD 1 million
Total amount	NTD 10,000 million; 5-year bond for NTD 7,500 million and 7-year bond for NTD 2,500 million
Coupon rate	Fixed rate; 1.35% p.a. and 1.50% p.a. for 5-year and 7-year bonds, respectively
Tenor and maturity date	5-year bond: March 15, 2018 7-year bond: March 15, 2020
Guarantor	None
Trustee	Taiwan Cooperative Bank
Underwriter	None
Transferring, paying or conversion agent	None
Legal counsel	Chen & Lin Attorneys-at-Law
Independent auditor	Ernst & Young, Taiwan
Repayment	The principal of 5-year and 7-year bonds will be repaid respectively in March 2018 and March 2020 upon maturity. Interest will be paid annually for both 5-year and 7-year bonds.
Outstanding amount	None (Note)
Redemption clause	None
Restrictive clause	None
Name of credit rating agency, rating date and result of rating	Taiwan Ratings Corporation November 30, 2012 twAA
Other rights of bondholders	None
Dilution effect or other adverse impact on existing shareholders' equity, if conversion, exchange, or subscription rights are attached	None
Custodian	None

Note: NTD 7,500 million for the 5-year bond was repaid on March 15, 2018.

NTD 2,500 million for the 7-year bond was repaid on March 15, 2020.

Issuance of Corporate Bonds (Continue)

Name of Bond	United Microelectronics Corporation 1 st Unsecured Straight Corporate Bond Issuance in 2014
Issue date	June 18, 2014
Denomination	NTD 1 million
Listing and trading	Taipei Exchange
Issue price	NTD 1 million
Total amount	NTD 5,000 million; 7-year bond for NTD 2,000 million and 10-year bond for NTD 3,000 million
Coupon rate	Fixed rate; 1.70% p.a. and 1.95% p.a. for 7-year and 10-year bonds, respectively
Tenor and maturity date	7-year bond: June 18, 2021 10-year bond: June 18, 2024
Guarantor	None
Trustee	Taiwan Cooperative Bank
Underwriter	None
Transferring, paying or conversion agent	None
Legal counsel	Chen & Lin Attorneys-at-Law
Independent auditor	Ernst & Young, Taiwan
Repayment	The principal of 7-year and 10-year bonds will be repaid respectively in June 2021 and June 2024 upon maturity. Interest will be paid annually for both 7-year and 10-year bonds.
Outstanding amount	NTD 5,000 million
Redemption clause	None
Restrictive clause	None
Name of credit rating agency, rating date and result of rating	Not applicable
Other rights of bondholders	None
Dilution effect or other adverse impact on existing shareholders' equity, if conversion, exchange, or subscription rights are attached	None
Custodian	None

Issuance of Corporate Bonds (Continue)

Name of Bond	United Microelectronics Corporation 1st Unsecured Straight Corporate Bond Issuance in 2017
Issue date	March 24, 2017
Denomination	NTD 1 million
Listing and trading	Taipei Exchange
Issue price	NTD 1 million
Total amount	NTD 8,300 million; 5-year bond for NTD 6,200 million and 7-year bond for NTD 2,100 million
Coupon rate	Fixed rate; 1.15% p.a. and 1.43% p.a. for 5-year and 7-year bonds, respectively
Tenor and maturity date	5-year bond: March 24, 2022 7-year bond: March 24, 2024
Guarantor	None
Trustee	CTBC Bank Co., Ltd.
Underwriter	MasterLink Securities Corp. as the lead underwriter
Transferring, paying or conversion agent	None
Legal counsel	Chen & Lin Attorneys-at-Law
Independent auditor	Ernst & Young, Taiwan
Repayment	The principal of 5-year and 7-year bonds will be repaid respectively in March 2022 and March 2024 upon maturity. Interest will be paid annually for both 5-year and 7-year bonds.
Outstanding amount	NTD 8,300 million
Redemption clause	None
Restrictive clause	None
Name of credit rating agency, rating date and result of rating	Not applicable
Other rights of bondholders	None
Dilution effect or other adverse impact on existing shareholders' equity, if conversion, exchange, or subscription rights are attached	None
Custodian	None

Issuance of Corporate Bonds (Continue)

Name of Bond	United Microelectronics Corporation 2 nd Unsecured Straight Corporate Bond Issuance in 2017
Issue date	October 3, 2017
Denomination	NTD 1 million
Listing and trading	Taipei Exchange
Issue price	NTD 1 million
Total amount	NTD 5,400 million; 5-year bond for NTD 2,000 million and 7-year bond for NTD 3,400 million
Coupon rate	Fixed rate; 0.94% p.a. and 1.13% p.a. for 5-year and 7-year bonds, respectively
Tenor and maturity date	5-year bond: October 3, 2022 7-year bond: October 3, 2024
Guarantor	None
Trustee	CTBC Bank Co., Ltd.
Underwriter	MasterLink Securities Corp. as the lead underwriter
Transferring, paying or conversion agent	None
Legal counsel	Chen & Lin Attorneys-at-Law
Independent auditor	Ernst & Young, Taiwan
Repayment	The principal of 5-year and 7-year bonds will be repaid respectively in October 2022 and October 2024 upon maturity. Interest will be paid annually for both 5-year and 7-year bonds.
Outstanding amount	NTD 5,400 million
Redemption clause	None
Restrictive clause	None
Name of credit rating agency, rating date and result of rating	Not applicable
Other rights of bondholders	None
Dilution effect or other adverse impact on existing shareholders' equity, if conversion, exchange, or subscription rights are attached	None
Custodian	None

Issuance of Corporate Bonds (Continue)

Type	Currency Linked Zero Coupon Convertible Bonds Due 2020
Issue date	May 18, 2015
Face amount	USD 200,000
Listing exchange	Singapore Exchange Securities Trading Limited
Issue amount	USD 200,000
Issue size	USD 600,000,000
Coupon rate	0%
Maturity	5 years; May 18, 2020
Guarantor	-
Trustee	Citicorp International Limited
Underwriter	Credit Suisse (Hong Kong) Limited, Morgan Stanley Service Pty Limited, The Hong Kong and Shanghai Banking Corporation Limited.
Legal counsel	Chen & Lin Attorneys-at-law
Auditor	Ernst & Young, Taiwan
Redemption	Unless previously redeemed, converted, or repurchased and canceled, the Company will redeem the Bonds at the principal amount of the Bonds with an interest calculated (calculated semiannually) at the rate of -0.25% per annum on the maturity date (the Redemption Amount). The Redemption amount will be converted into NTD based in the Fixed Exchange Rate, and this fixed NTD amount will be converted using the Prevailing Rate for payment in USD.
Principal payable	None (Note)
Redemption or early redemption clause	<p>(a) The Company will, at the option of bondholder, redeem such holder's Bonds in whole or in part at the principal amount of the Bonds with an interest calculated (calculated semiannually) at the rate of -0.25% per annum on the date which is 3 years from the date of issue. The actual rates per annum are decided according to market conditions by the Company and joint underwriters overseas together on the pricing date.</p> <p>(b) Bondholders have the right to require the Company to redeem the bonds, in whole but not in part, at the principal amount of the Bonds with an interest calculated (calculated semiannually) at the rate of -0.25% per annum (Early Redemption Amount) if the Company's common shares cease to be listed on the Taiwan Stock Exchange. The actual rates per annum are decided according to market conditions by the Company and joint underwriters overseas together on the pricing date.</p> <p>(c) In the event that a change of control (as defined in the indenture of the bonds) occurs to the Company, the bondholders shall have the right to require the Company to redeem the bonds, in whole but not in part, at the Early Redemption Amount.</p> <p>(d) The Redemption procedures of the exercise of the put right by the Bondholder and repurchase by the Company are all set in the Indenture. The Redemption Amount and The Early Redemption Amount will be paid in cash by the Company on the payment date set in the Indenture.</p> <p>(e) The Company may redeem the bonds, in whole or in part, after 3 years of the issuance and prior to the maturity date, at the Early Redemption Amount if the closing price of the Company's common shares on the Taiwan Stock Exchange, for a period of 20 out of 30 consecutive trading days, is at least 125% of the conversion price.</p> <p>(f) The Company may redeem the bonds, in whole, but not in part, at the Early Redemption Amount if at least 90% in principal amount of the bonds has already been redeemed, repurchased and cancelled or converted.</p> <p>(g) The Company may redeem all, but not part, of the bonds, at the Early Redemption Amount at any time, in the event of certain changes in the ROC's tax rules which would require the Company to gross up for payments of principal, or to gross up for payments of interest or premium. Bondholders may elect not to have their bonds redeemed by the Company in such event, in which case the bondholders shall not be entitled to receive payments of such additional amounts.</p> <p>The Redemption Amount/The Early Redemption Amount will be converted into NTD based on the Fixed Exchange Rate, and this fixed NTD amount will be converted using the Prevailing Rate for payment in USD.</p>

Issuance of Corporate Bonds (Continue)

Type		Currency Linked Zero Coupon Convertible Bonds Due 2020
Covenant		-
Name of credit rating agency, rating date and result of rating		-
Other obligation	Balance of amount converted to (exchangeable or warrant) shares, ADSs, or other types of securities as of the Annual Report Printing Date	USD 230,600,000
	Policy of issuing or converting (exchangeable or warrant)	The bondholders may from June 28, 2015 to May 8, 2020 convert the bonds into the Company's common shares as a substitute for the issuer's cash redemption. In addition, the bondholders will not be able to effect conversion into common shares during any closed period.
Effect on the current shareholders due to dilution		The underlying conversion for ECB is newly issued shares. If the ECB is fully converted, the dilution ratio to original shareholders is 8.63%. The impact to the dilution is minimal.
Name of custodian		Citibank, N.A., London Branch

Note: The Currency Linked Zero Coupon Convertible Bonds Due 2020 was fully repaid on May 18, 2020.

Exchangeable Bonds Information

None.

Euro Convertible Bonds Information

Type		Currency Linked Zero Coupon Convertible Bonds Due 2020						
Item	Year							
		2020 (Note)	2019	2018	2017	2016	2015	2015.05.18 (Issue Date)
Convertible Price		NTD 14.2179	NTD 14.2179	NTD 14.8157	NTD 15.4320	NTD 15.9895	NTD 16.7408	NTD 17.50
Market Price	High	USD 121.726	USD 121.802	USD 124.583	USD 114.894	USD 95.625	USD 100.864	-
	Low	USD 99.507	USD 95.185	USD 95.662	USD 92.255	USD 88.052	USD 87.579	-
	Average	USD 107.971	USD 101.385	USD 110.480	USD 104.396	USD 92.453	USD 93.145	-
Issue Date		May 18, 2015						
Reference Shares		Common shares						

Note: The Currency Linked Zero Coupon Convertible Bonds Due 2020 was fully repaid on May 18, 2020.

Shelf Registration for Issuing Bonds

None.

Corporate Bonds with Warrants

None.

Preferred Shares

None.

American Depositary Receipts

Issue Date	2008.09.19	2007.10.09	2006.11.06	2006.09.01	2005.09.01	2005.01.20	2004.11.16
Listing Exchange	New York Stock Exchange	New York Stock Exchange	New York Stock Exchange	New York Stock Exchange	New York Stock Exchange	New York Stock Exchange	New York Stock Exchange
Issue Amount	Stock dividend	Capital Reduction	USD 108.2 million	Stock dividend	Stock dividend	USD 84.2 million	USD 76.3 million
Listing Price/Unit	-	-	USD 3.05	-	-	USD 3.33	USD 3.47
Issue Units	9,885,719	-95,425,183	35,456,000	2,831,465	25,833,137	25,290,000	22,000,000
Underlying Representing Shares	UMC common shares	UMC common shares	UMC common shares	UMC common shares	UMC common shares	UMC common shares	UMC common shares
Number of Equivalent Local Shares per ADS	5 shares	5 shares	5 shares	5 shares	5 shares	5 shares	5 shares
Rights and Obligations of ADS Holders	Same as the common shareholder	Same as the common shareholder	Same as the common shareholder	Same as the common shareholder	Same as the common shareholder	Same as the common shareholder	Same as the common shareholder
Trustee	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Depository Bank	Citibank, N.A.	Citibank, N.A.	Citibank, N.A.	Citibank, N.A.	Citibank, N.A.	Citibank, N.A.	Citibank, N.A.
Custodian Bank	Citibank, N.A. Taipei Branch	Citibank, N.A. Taipei Branch	Citibank, N.A. Taipei Branch	Citibank, N.A. Taipei Branch	Citibank, N.A. Taipei Branch	Citibank, N.A. Taipei Branch	Citibank, N.A. Taipei Branch
Outstanding Balance (Units)	The total outstanding balance is 140,000,865 units.						
Issuing Expenses and Maintenance Fees	Except for IPO and dividends, the issuing expense will be borne by the selling shareholders. The maintenance fees will be borne by the Company.						
Important Terms and Conditions of Depositary Agreement and Custodian Agreement	-	-	-	-	-	-	-

Note 1: The data shown above was gathered until February 24, 2021.

Note 2: On October 21, 2009, the Depository bank was changed to JPMorgan Chase Bank, N.A., and the custodian bank was changed to JPMorgan Chase Bank, N.A. Taipei Branch.

American Depositary Receipt Trading Data

Closing Price per Share (USD)	2021			2020		
	High	Low	Average	High	Low	Average
	10.78	8.01	9.58	9.04	2.13	3.83

Note: The data represented for 2021 was gathered until February 24, 2021.

American Depositary Receipts (Continue)

2004.08.19	2004.01.02	2003.12.23	2003.08.15	2002.09.09	2002.03.19	2001.08.17	2000.09.19
New York Stock Exchange	New York Stock Exchange	New York Stock Exchange	New York Stock Exchange	New York Stock Exchange	New York Stock Exchange	New York Stock Exchange	New York Stock Exchange
Stock dividend	USD 13.8 million	USD 24.4 million	Stock dividend	Stock dividend	USD 439.7 million	Stock dividend	USD 1,291.5 million
-	USD 4.92	USD 4.75	-	-	USD 9.25	-	USD 14.35
15,088,684	2,804,000	5,146,000	6,965,107	22,655,667	47,537,780	13,500,000	90,000,000
UMC common shares	UMC common shares	UMC common shares	UMC common shares	UMC common shares	UMC common shares	UMC common shares	UMC common shares
5 shares	5 shares	5 shares	5 shares	5 shares	5 shares	5 shares	5 shares
Same as the common shareholder	Same as the common shareholder	Same as the common shareholder	Same as the common shareholder	Same as the common shareholder	Same as the common shareholder	Same as the common shareholder	Same as the common shareholder
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Citibank, N.A.	Citibank, N.A.	Citibank, N.A.	Citibank, N.A.	Citibank, N.A.	Citibank, N.A.	Citibank, N.A.	Citibank, N.A.
Citibank, N.A. Taipei Branch	Citibank, N.A. Taipei Branch	Citibank, N.A. Taipei Branch	Citibank, N.A. Taipei Branch	Citibank, N.A. Taipei Branch	Citibank, N.A. Taipei Branch	Citibank, N.A. Taipei Branch	Citibank, N.A. Taipei Branch
-	-	-	-	-	-	-	-

Employee Stock Options Handling Status

The processing situation and impact on shareholders' rights from employee stock options that have not matured yet:

None.

Issuance of New Restricted Employee Shares

Type of New Restricted Employee Shares	1st Tranche												
Date of Effective Registration	2020.07.09												
Issue Date	2020.09.01												
Number of New Restricted Employee Shares Issued	200,030,000 shares												
Issued Price (NTD)	The current issue is gratuitous												
New Restricted Employee Shares as a Percentage of Shares Issued	1.64%												
Vesting Conditions of New Restricted Employee Shares	<p>1. If an employee, after having been granted a restricted stock award, remains on the job on the vesting date, is determined by the Company as having not violated the employment contract, employee code of conduct, trust agreement, corporate governance best practice principles, ethical corporate management best practice principles, work handbook or non-compete and non-disclosure agreement of the Company or any agreement with the Company, and has fulfilled the personal performance indicators and operational goals set by the Company, the proportions of the vesting shares to be granted for such employee on the vesting date each year is as follows:</p> <p>1-1. On the job for 2 years after granting: 33%</p> <p>1-2. On the job for 3 years after granting: 33%</p> <p>1-3. On the job for 4 years after granting: 34%</p> <p>2. Personal performance indicator(s): A performance rating of A or higher for the most recent fiscal year prior to the end of each vesting period.</p> <p>3. The operational goals of the Company use the return on equity (ROE%) % and operating margin % (OM%) as performance indicators. Listed below are the performance target for the two indicators, which shall be simultaneously fulfilled. Determination of fulfillment of the indicators will be based on the consolidated financial statements, audited by a certified public accountant, for the most recent fiscal year prior to the end of each vesting period.</p> <table border="1"> <thead> <tr> <th>Indicator</th> <th>Return on equity (ROE%)</th> <th>Operating margin (OM%)</th> </tr> </thead> <tbody> <tr> <td>2 years after granting</td> <td>6% or above</td> <td>6% or above</td> </tr> <tr> <td>3 years after granting</td> <td>8% or above</td> <td>8% or above</td> </tr> <tr> <td>4 years after granting</td> <td>10% or above</td> <td>10% or above</td> </tr> </tbody> </table>	Indicator	Return on equity (ROE%)	Operating margin (OM%)	2 years after granting	6% or above	6% or above	3 years after granting	8% or above	8% or above	4 years after granting	10% or above	10% or above
Indicator	Return on equity (ROE%)	Operating margin (OM%)											
2 years after granting	6% or above	6% or above											
3 years after granting	8% or above	8% or above											
4 years after granting	10% or above	10% or above											
Restricted Rights of New Restricted Employee Shares	<p>1. Before any employee who has been granted restricted stock award shares fulfills the vesting conditions, except for the case of inheritance, the restricted stock award shares may not be sold, pledged, transferred, gifted to others, created any encumbrance, or otherwise disposed of.</p> <p>2. Before any employee who has been granted restricted stock award shares fulfills the vesting conditions, his/her rights to attendance, proposal, statement, voting and election at the Shareholders' Meeting shall be the same as those of the outstanding common shares of the Company, and shall be exercised according to a custodial trust agreement.</p> <p>3. Where any employee has been granted restricted stock award shares pursuant to these Regulations, his/her other rights prior to fulfillment of the vesting conditions include, but are not limited to: the right to distribution of cash dividends, stock dividends, legal reserves and capital reserves, and employee stock option at cash capital increase. Such rights shall be the same as those of the outstanding common shares of the Company, and shall be exercised according to a custodial trust agreement.</p> <p>4. During the period from the book closure date for stock dividends granted by the Company, the book closure date for cash dividends, the book closure date for shares purchased from a cash capital increase, the book closure period of the Shareholders' Meeting as specified by Article 165, Paragraph 3 of the Company Act or any other statutory book closure date occurring based on the fact of the record date for distribution of rights, the time and process for lifting restrictions on the vested shares of any employee who has fulfilled the vesting conditions shall be subject to a custodial trust agreement or the applicable laws and regulations.</p>												

Type of New Restricted Employee Shares	1st Tranche
Custody Status of New Restricted Employee Shares	Placed under custodial trust
Measures to be Taken When Vesting Conditions are not Meet	<ol style="list-style-type: none"> 1. Where an employee who has been granted restricted stock award shares is not on the job on the vesting date, has committed an act of gross negligence by violating any of the agreements under Article III, Paragraph (III), Sub-paragraph 1 of "2020 Regulations Governing the Issuance of Restricted Stock Awards for Employees", or has failed to fulfill the personal performance indicators and operational goals set by the Company, the shares granted to him/her but unfulfilled vesting conditions will be recovered and canceled by the Company without compensation. 2. During the vesting period, if an employee has voluntarily resigned or been dismissed or laid off, his/her unvested shares will be recovered and canceled by the Company without compensation.
Number of New Restricted Employee Shares that have been Redeemed or Bought Back	0 share
Number of Released New Restricted Employee Shares	0 share
Number of Unreleased New Restricted Shares	200,030,000 shares
Ratio of Unreleased New Restricted Shares to Total Issued Shares (%)	1.64%
Impact on Possible Dilution of Shareholdings	The dilution of the Company's EPS is limited, so there is no significant impact on the interest of shareholders.

Status of New Shares Issuance in Connection with Mergers and Acquisitions

The Company has not completed any merger or acquisition of another corporation to issue new shares according to the Company Act or Enterprises Mergers and Acquisition Act, nor has the Board of Directors approved any merger or acquisition of another corporation to issue new shares according to the Company Act or Enterprises Mergers and Acquisition Act during 2020 and as of the Annual Report Printing Date.

Financing Plans and Execution Status

Not Applicable.

List of Executives Receiving New Restricted Employee Shares and the Top 10 Employees with New Restricted Employee Shares

	Title	Name	No. of New Restricted Shares	New Restricted Shares as a Percentage of Shares Issued(%)
Manager	Chairman & Chief Strategic Officer	Stan Hung		
	President	SC Chien		
	President	Jason Wang		
	Executive Vice President	Ming Hsu		
	Senior Vice President	Oliver Chang		
	Senior Vice President & Chief Financial Officer	Chitung Liu		
	Senior Vice President & General Counsel	Lucas S Chang		
	Vice President	TS Wu		
	Vice President	C C Hsu		
	Vice President	M C Lai		
	Vice President	G C Hung		
	Vice President	Wenchi Ting		
	Vice President	Jerry CJ Hu		
	Vice President	Y S Shen		
	Vice President	Steven S Liu		
	Vice President	SR Sheu		
	Vice President	M L Liao		
	Vice President	S S Hong		
	Vice President	Francia Hsu		
	Vice President	Mindy Lin	119,850	0.965
	Vice President & Chief Human Resources Officer	Eric Chen		
	Associate Vice President	Johnson Liu		
	Associate Vice President	Victor Chuang		
	Associate Vice President	Chuck Chen		
	Associate Vice President	S F Tzou		
	Associate Vice President	Le Tien Jung		
	Associate Vice President	Yau Kae Sheu		
	Associate Vice President	J Y Wu		
	Associate Vice President	Osbert Cheng		
	Associate Vice President	Steven Hsu		
	Associate Vice President	Purakh Raj Verma		
	Associate Vice President	Yanan Mou		
	Associate Vice President	Remi Yu		
Associate Vice President	Michael CY Wang			
Associate Vice President	Ji Fu Kung			
Associate Vice President	C P Yen			
Associate Vice President	Pang Min Wang			
Associate Vice President	Ray Yang			
Associate Vice President	Bellona Chen			
Associate Vice President	Louis Hsieh			

As of February 24, 2021/Unit: Thousand Shares

No. of Shares	Issued Price (NTD)	Amount (Thousand NTD)	Released		Unreleased		
			Released Restricted Shares as a Percentage of Shares Issued (%)	No. of Shares	Strike Price (NTD)	Amount (Thousand NTD)	Unreleased Restricted Shares as a Percentage of Shares Issued (%)
0	0	0	0.00	119,850	0	0	0.965

List of Executives Receiving New Restricted Employee Shares and the Top 10 Employees with New Restricted Employee Shares (Continue)

	Title	Name	No. of New Restricted Shares	New Restricted Shares as a Percentage of Shares Issued(%)
Employee	Senior Division Director	M H Wang		
	Senior Fab Director	William Lu		
	Senior Division Director	Cedric Lee		
	Senior Division Director	JT Lin		
	Senior Fab Director	J H Lin		
	Senior Division Director	Jeffrey Lin		
	Senior Division Director	Benjamin TM Lin		
	Senior Division Director	Seanchy Chiu		
	Senior Fab Director	Y C Kuo		
	Senior Division Director	David Chen	17,680	0.142
	Senior Division Director	Stan Chen		
	Senior Division Director	Jeffrey Huang		
	Senior Division Director	Wunnshien Liao		
	Senior Division Director	Ming Hsing Liu		
	Senior Division Director	Wood Tsai		
	Senior Division Director	Yao Chin Cheng		
	Senior Technical Director	Alex Chien		
	Senior Division Director	Michael Tai		
	Senior Division Director	K C Su		

As of February 24, 2021/Unit: Thousand Shares

Released				Unreleased			
No. of Shares	Issued Price (NTD)	Amount (Thousand NTD)	Released Restricted Shares as a Percentage of Shares Issued (%)	No. of Shares	Strike Price (NTD)	Amount (Thousand NTD)	Unreleased Restricted Shares as a Percentage of Shares Issued (%)
0	0	0	0.00	17,680	0	0	0.142

Operations Overview

- 121 Business Activities
- 128 Overview of Market, Production, and Sales
- 134 Employees
- 135 Environmental Expenditure Information
- 135 Labor Relations
- 139 Major Contracts

Business Activities

Business Scope

UMC provides wafer fabrication technology services through state-of-the-art manufacturing processes and produces chips for various applications within the IC industry. The Company provides logic and mixed-signal process technologies from 0.6 micron to 14nm. UMC continuously introduces competitive process technologies and complete solutions to meet specific customer's chip design requirements. Customers can select different processes according to their product application, such as

embedded non-volatile memory, high voltage, integrated bipolar/CMOS/depleted CMOS, MEMS sensor and mixed-signal/RF CMOS, RFSOI, 2.5D/3D advanced package, GaAs, GaN..., to complete design tape out.

In 2020, revenue contribution from UMC's wafer fabrication accounted for the vast majority of the Company's total sales revenue, with the remainder generated from new R&D ventures and manufacturing of solar energy.

Industry Overview

Current Status and Development of the Semiconductor Industry

The development of electronic products has been trending towards enhanced functionality, light weight, energy saving and carbon reduction, and smart AI. The incorporation of IoT, artificial intelligence concepts, deep learning and voice control in recent years has also affected the direction of chip design. Therefore, the complexity of chip designs has significantly increased due to the considerations of functional integration, performance enhancement, low power consumption, and commercial introduction of hybrid packaging. In addition, due to the constant miniaturization of semiconductor fabrication processes and cost considerations, this trend has caused the entry barrier into semiconductor fabrication process technology to continuously increase, and the investment required has also been growing exponentially.

With the constantly rising entry barriers of various semiconductor sectors from design, fabrication, packaging, and test, under the considerations of professional division of labor and production efficiency, the semiconductor industry's move towards a vertical division of labor system is becoming more and more obvious. The development cost of advanced process technologies and the capital expenditure of new tools and equipment have risen significantly, such that the industrial structure of professional division of labor has been formed. This phenomenon has resulted in many existing Integrated Device Manufacturers (IDMs) to announce that they will no longer actively invest in the development of advanced processes or increase their capacity due to cost vs. benefit considerations. Instead,

they have increased the proportion of wafer manufacturing to foundry outsourcing. Some makers of system products have also designed ICs (such as cellphone chips and server processor) by themselves and outsourced to wafer foundry. These industrial trends all have a positive impact on the sustainable development of the professional wafer foundry industry.

For 2020, the global semiconductor industry was impacted by positive and negative factors. Generally speaking, COVID-19 lowered global GDP and economic contraction negatively impacted many areas of electronic consumption. However, the China-US trade dispute resulted in an industrial structure change, with many new applications triggered by COVID-19, such as Work from Home and Remote e-learning, which significantly increased chip demand. In addition to high 5G smartphone sales, this rare strong rebound in chip demand was welcome. Reduced tourism and business travel negatively affected automotive sales, with car makers closing production lines and even laying off employees, resulting in declining automotive semiconductor sales. Summarizing the views from all major industries, SIA (Semiconductor Industry Association) reported worldwide semiconductor would grow around 5.1% in 2020.

Under the applications driven by 5G, IoT, automotive, and AI, those are expected as major growth momentum for semiconductor industry. The continuous and steady growth of domestic and international economies can be expected in 2021, due to the steady demand increase from 5G, HPC, AI, IoT, and smartphone returning to a pattern of growth. PC sales maintain at a high level, more emerging applications appeared, and

Industry Overview (Continue)

automotive semiconductor and memory showed a rebound. SIA forecasts worldwide semiconductor will grow 8.4%. Gartner forecasts the foundry industry to grow 9.2%.

Yet there are still uncertainties which will affect future economic development. The most crucial keys are how the industry will be impacted by COVID-19, the new US President's economic policy decisions and the U.S.-China Trade War, the slowdown of economic growth in China, conflicts in regional politics, decisions by the U.S. Fed, degrees of inflation in various countries, and international energy price trends. Therefore, all major global wafer foundries should be prudent with their capital expenditures when expanding production capacity planning.

Correlation Among Upstream, Midstream, and Downstream Industry Suppliers

The division of labor in the semiconductor industrial chain is fairly mature and can generally be divided into IC design, mask, wafer fabrication, testing and packaging from upstream to downstream, and these form complete sub-industries as well. IC design is mainly the design according to the specifications and applications required by end products. Different IC chips and products will have emphasis on different characteristics, thus leading to different process requirements. Therefore, professional wafer foundries must provide the most current technical foundry process technology services and adequate silicon intellectual property (IP), and continuously optimize process technology to help IC design customers in their chip development, eventually moving to mass-production with high quality and high yield rate. In the end, testing and packaging companies will perform IC packaging and pre-shipment testing to ensure customer chips are meeting their respective design specifications.

The Development Trend and Competition of Electronic End Products

Conventional electronic products can be divided into several categories: Computer, Communication, Consumer, Industry, and Automotive. Electronic products have been developed towards compact size and light weight, low power consumption, interconnection, artificial intelligence, and deep learning. For example, notebooks and tablets can operate longer, and cellphones can be wirelessly connected to notebooks and tablets. In addition, the greatly enhanced bandwidth of broadband networks has contributed to the development of networked and smart TVs. By linking all things via the access, delivery, and processing of information to form a large network, many breakthrough applications and enormous business opportunities in the fields of smart home, health care system, and urban facilities become available. Looking towards the future, the key technologies of 5G, smartphones, wearable electronics, AR/VR, autonomous/electrical vehicle, AI/deep learning, voice control products, and IoT will be constantly adopted and commercialized. As such, professional wafer fabrication services should complete corresponding process development and silicon intellectual properties in order to meet the needs of different application requirements and business opportunities of end system products.

Overview of Technology and R&D

R&D Expenses for the Past 5 Years

In Thousand NTD

	2020	2019	2018	2017	2016
Operating Revenues	176,820,914	148,201,641	151,252,571	149,284,706	147,870,124
Research and Development Expenses	12,895,501	11,860,244	13,025,139	13,669,589	13,532,356
Research and Development Expenses as a Percentage of Operating Revenues	7.29%	8.00%	8.61%	9.16%	9.15%

Note 1: The R&D expenses from 2016 to 2020 are determined according to the international financial report criteria approved by the Financial Supervisory Commission.

Note 2: The R&D expense for 2021 was calculated up until the publication date of Feb. 24, 2021, which amounted to NTD 1,715,722 thousand.

Technologies or Products Successfully Developed Within the Past 5 Years

Year	R&D Achievements
2016	<ul style="list-style-type: none"> Successful development of 28HPC^U process technology, which was provided to an IP provider to introduce a 12.5 Gbps SerDes PHY IP programmable design solution for high speed I/O. Successful development of 40nm embedded charge trap (eCT) flash memory, which was provided to customers for mass production of MCU products. Successful development of 55nm ultra-low power (55ULP) process, which was provided to an IP provider to introduce PowerSlash™ fundamental IP solutions to meet the long-term battery life-time requirements of wireless IoT products.
2017	<ul style="list-style-type: none"> Successful development of a customized 14nm FinFET process technology, which entered mass production for customer ICs. UMC's 14nm wafer yields reached industry competitive levels, with products delivered to the Company's primary customer. Successful pilot production of 28HPC^{U+} process technology for customers to meet the demand for faster chips with better power saving features. Introduced a 40nm non-volatile memory technology platform, which incorporated Silicon Storage Technology's (SST's) embedded SuperFlash® non-volatile memory that features low power consumption, high reliability, outstanding data retention, and high durability, which can be used for automobile, industry, consumer products, and IoT applications.
2018	<ul style="list-style-type: none"> Successful development of 22nm ultra-low power (ULP)/ultra-low leakage (ULL) HK/MG process to provide customers chips with faster speed, better cost efficiency and improved power saving to meet future demands from IoT, automotive electronics, industrial electronics, and various wearable product applications. 14nm FinFET customized process entered mass production. In addition, UMC developed a new 14nm FinFET platform process (14FFC), with yield for the 128Mb SRAM on this process having reached industry competitive levels. 14FFC also passed process and product reliability verification to officially enter the pilot production stage for customer chips. UMC partnered with the leader in next generation STT-MRAM, USA-based Avalanche, to jointly develop and produce eMRAM.
2019	<ul style="list-style-type: none"> 14nm FinFET-Plus customized process entered mass production. In addition, UMC developed a new 14nm FinFET platform compact process (14FFC), with yield for the 128Mb SRAM on this process having reached industry competitive levels. 14FFC also passed process and product reliability verification to officially enter the pilot production stage for customer chips. 40nm ReRAM was co-developed with Panasonic and was already at the risk production stage. This high performance ReRAM is fully compatible with UMC's CMOS logic process.
2020	<ul style="list-style-type: none"> 14nm FinFET compact process platform (14FFC) customer product yield reached 90%, passed customer product HTOL qualification, and entered the mass production stage. 22nm process reached the milestone of mass production for customers' digital TV (DTV) chips. Product used in image signal processor (ISP), adopting high-performance computing process (28HPC^{U+}), has been mass-produced. UMC, cooperating with eMemory and its subsidiary PUFsecurity, announced the successful joint development of the world's first PUF (physical unclonable function)-based security embedded flash (PUFflash) solution. The second generation of CMOS-MEMS gas sensors, 90nm and 55nm RFSOI process technologies all entered the mass production stage.

Overview of Technology and R&D (Continue)

UMC's R&D team has always been dedicated to promoting the development of logic process technology. With the adherence to the belief of "Customer Demand Comes First," the Company has been providing pure-play wafer foundry solutions to meet market trends and customer needs, which include world-class technology, customer support services, and state-of-the-art manufacturing. With the expansion of UMC's Southern Taiwan Science Park site, the Company continues to recruit and train a large number of R&D talent. In 2020, UMC continued to significantly invest in R&D resources with total annual R&D expense reaching NTD 12.9 billion, which has led to fruitful R&D achievements in logic and specialty technologies.

14nm Process Technology

UMC reached the mass production milestone for its customized 14nm FinFET process in early 2017, and the competitiveness of device performance and yield has reached industry leading standards. In 2018, UMC's other 14nm project (14FFC FinFET process platform) showed 50% performance improvement and twice the gate density compared to 28nm. 128Mb SRAM reached mass production quality levels for product yield and has passed process and product reliability verification. Currently, several customers have designed products on UMC's 14FFC platform, with product yield reaching 90% and performance meeting design targets. In addition, 14FFC also passed customer product HTOL (High Temperature Operating Life) reliability qualification and already entered mass production. With the successful rollout of 5G and Netcom applications, UMC's 14FFC has also attracted customers to engage in new product design-in, with tape out expected in 2021.

22nm Ultra-low power/Ultra-low Leakage Process Technology

UMC has developed 22nm process technology and its 28nm high performance compact low power process technology platform (HPC^{U+}). With the same number of mask layers and compatible design criteria as 28nm, the performance of 22nm process technology has been enhanced by 10%, power consumption has been reduced by 20%, and area has been reduced by 10%. Therefore, the cost competitiveness of 22nm technology has been greatly improved to provide customers with more process options. 22nm ultra-low power/ultra-low leakage technologies are suitable for IoT, automotive electronics, industrial applications, and various wearable products that utilize analog, mixed signal, RF, and other relevant technologies. UMC's 22nm introduction has maximized the value of the Company's 28nm process, with IP verification from 28nm to 22nm being relatively easy due to direct conversion from the use of compatible design specifications. UMC's 22nm process has been introduced to customers and completed pilot production. In Q4, 2020, it reached the mass production milestone for customer digital TV (DTV) chips, and

UMC continued to optimize the process and expand the application range of 22nm process products. In 2021, it is expected that more than ten customers will apply this platform technology for pilot production on Internet of Things (IoT), consumer electronics, industrial applications and wearable (Mobile) products.

28nm High-Performance Process Technology

UMC's 28nm high-performance process utilizes high-k/metal gate stack technology. The 28nm high-performance computing process (28HPC^{U+}) entered mass production in 2020 for image signal processor (ISP) products, and more advanced and high-end products are expected to begin mass production in 2021. The 28HPC^{U+} millimeter wave (mmWave) process covers high-performance and low-power technology platforms; verification of the millimeter wave chip design process has already been completed. UMC further extends its SPICE model coverage to 110GHz for mmWave in order to serve mobile phone, automotive/industrial radar and 5G FWA/CPE applications. Customers can leverage UMC's mmWave foundry design kit (FDK) to design a transceiver IC, or integrate the foundry's well-established digital and analog IP to accelerate their mmWave SoC design.

Embedded MRAM

For future market demands related to advanced IoT, automotive electronics, wearable products, and cloud applications, conventional embedded non-volatile flash memory based on eFlash is gradually showing an imbalance between cost and performance. In light of this, UMC invested in the R&D of eMRAM in 2018. Following UMC's eMRAM development schedule, the critical characteristics including the magnetic component bit error rate, macro circuit endurance, data retention, have already reached the industry's leading competitiveness level. UMC expects to provide embedded MRAM macros on the 22nm platform for customers in 2021, and to further provide customers with complete SoC services for their circuit design solutions.

ReRAM

ReRAM is a novel NVM with a simple structure, low operation voltage, low read current, fast program/erase speed and very good reliability. ReRAM process is fully logic compatible with less add-on masks and low extra cost. UMC started to co-develop ReRAM with Panasonic in 2017 and already started mass production in 2020. Panasonic also plans to have more product tape outs in the near future.

Display Driver IC Process Technology

The Display Driver IC market has demonstrated potential for rapid growth and possibilities in numerous applications, including smartphone, portable phone/PDA, computer screen, touch screen, tablet PC, e-book,

Overview of Technology and R&D (Continue)

TV, digital camera, on-board screen, and wearable display. UMC's High Voltage Technology has led the development of various voltages to meet the specification requirements of various application markets. UMC was the first in the foundry industry to introduce a 28nm High Voltage Process, and mass production has been achieved for high-end LCD Display and high-end OLED Display markets. In addition, UMC has begun developing a 22nm High Voltage Platform to provide smaller SRAM with higher capacity in order to meet the demand of the 2K/4K high-end display market.

Power Management Process Technology

As for the demands for various power management applications (PMIC), UMC's super high voltage (5V and 30V in coordination with 300V, 500V or 700V) processes have entered the mass production stage. This technology is suitable for special applications such as power charger, LED bulb, power amplifier, AC/DC converter, and motor driver and can meet industry demand for higher voltage and reduce the energy consumption during voltage conversion in order to save energy. As for customers with demands for highly integrated power management, UMC can provide a complete silicon IP platform compatible with the standard logic process, and various 0.5um, 0.35um, 0.25um, 0.18um, and 0.11um process technologies that integrate world-class, third generation low conduction resistance/high sustained voltage (5V~200V) devices that can be used for cell phone, tablet PC, appliance, vehicle applications, etc. UMC has also begun developing a BCD+NVM technology platform as a complete SoC solution for energy-saving demands. UMC 0.11um BCD-Flash platform technology will be released in 2021 for customers' design-in and tape-out.

CMOS Image Sensor (CIS), MEMS, and RFSOI Technologies

For CMOS image sensor technology development, UMC's 65nm process has been verified to enter the mass production stage. The new processes, such as back-illuminated sensor (BIS) and 55nm CIS process technologies, have entered the verification stage. This technology is expected to provide higher sensing resolution to meet product upgrade requirements. With the rising popularity of MEMS sensor applications, the demand for CMOS-MEMS pure-play foundry service has also increased. For MEMS microphone, several customers taped out new products using UMC's MEMS microphone reference process, and volume continued to grow steadily. The second generation of CMOS-MEMS gas sensors has also entered the mass production stage. Regarding RFSOI process technology, its unique substrate characteristics can prevent high-frequency signal harmonic frequency distortion and reduce power loss. At

present, 0.13um, 0.11um and 90nm processes have been widely adopted by smart phones for mass production. UMC has its 55nm process ready for mass production and also started to develop 40nm RFSOI technology platforms to catch subsequent growth trends.

Non-Volatile Flash Memory

UMC has always been dedicated to providing customers with complete SoC solutions including non-volatile flash memory devices, which are essential for most applications. Auto chips, MCU applications and consumer products such as touch control applications all require the support of embedded flash technology. In addition to the successful mass production of 0.18um and 0.11um technologies, 55nm embedded flash memory has successfully entered the mass production stage. The MCU products equipped with 40nm embedded charge trap (eCT) flash memory is also in mass production, as well as 40nm technology platform with SST (Silicon Storage Technology) embedded SuperFlash® non-volatile memory, which has entered small volume pilot production in order to provide customers with better performance and higher density memory. UMC has begun developing a 28nm SST embedded SuperFlash® non-volatile memory platform and researching new materials for flash memory such as ReRAM, in order to meet customer demands for higher specifications. Embedded flash memory is embedded on UMC's logic technology platform, such that the silicon IP on all logic technology platforms can support the SoC design of our customers to further enhance industry competitiveness.

Mixed Signal/RF Foundry Design Kit

Foundry design kits can provide IC design houses with an automated design environment to eliminate unnecessary human manipulation to ensure the success of their chip design. UMC's complete mixed signal/RF design flows for different processes cover both the frontend and backend of RF IC Design, which can provide channels to obtain the design and simulation of circuit level, circuit layout, layout verification, and precise RF device mode. In the frontend flow, UMC's fundamental devices of its mixed signal/RF process are executed using a general design environment and simulation tools. In the backend flow, it covers parameterized cell (P-Cell), including image-oriented layout, in order to provide an automated and complete design flow. Meanwhile, a callback function is provided during the design flow to reduce the data input. Design houses can enhance the productivity and reduce the risk of error via this flow.

Overview of Technology and R&D (Continue)

UMC has worked with EDA vendors to provide its customers with a parameterized spiral inductor design kit based on full-wave simulation – VIL (Virtual Inductor Library). VIL can allow RF CMOS design houses to create and simulate the customized inductors compatible with UMC's process. VIL is established based on UMC's EMDM (Electromagnetic Design Methodology) such that engineers can easily and precisely create any RF structure. EMDM allows design houses to have more flexibility to create new geometric modes via editing parameters such as diameter, turn, width, and track pitch.

In addition, UMC's foundry design kit includes Optimum Inductor Finder (OIF). OIF allows design houses to quickly and precisely create a large amount of calibrated inductor design libraries with respect to UMC's process. Meanwhile, OIF also allows users to use software to execute the optimized inductor via several simple steps. For example, customers can define desired inductance coefficients to reach the balance between quality factor and area. OIF can select a design that best fits the specifications from the inductor design library within the shortest amount of time.

Silicon IP Support

Along with the design trends toward more precise deep sub-micron generation processes and increasing design complexity, foundry can no longer only focus on process yield improvement, but must also help customers shorten their design flow and reduce design cost. In terms of library design kits, UMC strengthens its design support capability by constantly providing optimized library design kits closely integrated with the Company's process technology in order to help designers accelerate the completion of their chip design. From mature to advanced process technologies to specialty processes, UMC can provide complete Standard Cell, I/O and customized libraries to meet customers' chip design needs. In terms of logic process, UMC's standard cell library for advanced processes can provide devices of various operating and threshold voltages (Vt). Along with low power library kits, they can meet various customer needs for design flexibility and high performance/low

power applications. UMC's I/O library has an extremely small area, and it is qualified through a stringent Electrostatic Discharge (ESD) test to help customers design competitive products that can pass the ESD test with voltage as high as 4kV. So far, numerous customers have taped-out successfully and mass produced products using UMC's I/O library on 110nm, 90nm, 65nm, 55nm, 40nm, and 28nm processes. UMC also provides customized embedded flash memory (eFlash) IP on various process generations according to customer needs and has successfully helped customers with quick market entry for their products. In addition to UMC made IPs, the Company has also established partnerships with industry-leading IP vendors in order to provide physical library, non-volatile memory IPs, and diversified analog/mixed signal IPs that support industrial standard interfaces (such as USB, DDR, and HDMI). This year UMC has extended its long-term IP cooperation with all leading IP vendors to 22nm and 14nm processes in order to provide customers with a competitive design support environment.

Intellectual Property

Facing increasing technological competition, UMC has significantly strengthened patent filings to protect intellectual property in addition to greatly enhancing technological capabilities in critical fields. Following the Company's operation and development planning, the Company's IP division has formulated strategies and plans for the protection and development of intellectual property to promote the steady growth of the number of patent rights. Status on the implementations is reported to the board of directors at least once a year. The Company was granted a total of 484 domestic and foreign patents in 2020, 271 of which are US patents, 96 ROC patents, and 117 China patents. The total accumulated number of UMC's patents is 13,991, which can provide a thorough and strong IP foundation for UMC's technologies. To keep this competitive edge, UMC has greatly increased the quality and quantity of critical technology patents in order to further strengthen customer service and competitiveness while helping them to create profits.

Long-Term and Short-Term Business Plans

UMC is committed to delivering comprehensive wafer fabrication solutions to its customers based on cooperation with partners in the entire supply chain, including suppliers of equipment, automated electronic design tools, wafer design service, silicon IP, and packaging and testing. The Company provides customers with verified reference flows, broad silicon IP combinations, free design cell library databases, and diversified options for packaging and testing. With advanced process technologies and world-class 12-inch wafer fabrication technology, UMC can assure accelerated time-to-market for its customers' SoC designs.

Short-Term Objectives

UMC's short-term objectives are to expand the production capacity of 8-inch and 12-inch specialty technologies and advanced processes, enhance capacity utilization rate, and strengthen profitability. Currently, UMC owns four 12-inch fabs. In addition to the mass production of products on process technologies above 14nm, UMC's rich technology platforms at various process nodes and diversified specialty technologies can meet all requirements of primary market applications. At the same time, the Company continues to conduct structural productivity enhancements and manufacturing capacity optimization of 8-inch and 12-inch fabs to embrace new opportunities, improve revenue and improve ROE.

Medium-to-Long-Term Objectives

Advanced and specialty process technology R&D and investment has always been a primary focus of UMC. The advanced processes equipment procurement will be managed more efficiently, and all important R&D work will be implemented according to plan. UMC will work to reduce expenditures and enhance operational efficiency to effectively control costs, while providing customized advanced and specialty process technology platforms to meet customers' needs. UMC's capital expenditure for 2021 is expected to be approximately USD 1.5 billion. In order to expand business scale, UMC is looking for existing fabs which are for sale, and will evaluate the possibility to acquire it, because acquiring an existing fab is more effective to meet UMC growth strategy -- to expand cost-effective capacity for competitiveness.

Facing market requirements for continuously advancing semiconductor technology, in addition to UMC's own technology R&D, the Company will work with strategic partners and supply chain vendors to jointly develop 3D chip integration technologies. UMC will also continue raising environmental protection awareness and care for the environment. In addition to establishing a low carbon and green chemical supply chain, UMC is dedicated to the support of various environmental protection activities and the promotion of environmental protection education.

Outstanding UMC Achievements in 2020

- UMC Leads all Semiconductor Foundries with CDP "Leadership Level" Designation on Global Climate Change Assessment for 4th Consecutive Year
- UMC Ranked Top 5% in Corporate Governance Evaluation for 6th Consecutive Year
- UMC Honored by Texas Instruments 2019 Supplier Excellence Award
- UMC Selected as a DJSI Global Component for 13th Consecutive Year
- UMC Named 2020 "Taiwan Enterprise Sustainability Platinum Award" Winner for the 3rd Consecutive Year.
- UMC Awarded with "National Enterprise Environmental Protection Award" for the 18th Consecutive Year.
- UMC Awarded with "Corporate Continuous Improvement Activity" honors for the 17th Consecutive Year.

Overview of Market, Production, and Sales

Market Analysis

Primary Product Sales Regions

UMC's products have been well recognized by its important customers covering all global regions. The sales regions of the Company's products are mainly Asia Pacific and North America, which account for 57% and 30% of our operating revenues, respectively. Europe and Japan accounted for 13% of our operating revenues. In the future, UMC will continue to strengthen its cooperation with world-class customers and emerging potential start-up companies in all regions and focus on the development of high-end products for customers in order to ensure consistent medium and long-term company growth.

Market Share

UMC is a world leading semiconductor wafer foundry. The total revenue of the global pure-play wafer foundry market in 2020 was approximately USD 75.4 billion. According to the estimation by market survey institution Gartner, UMC has a 7.9% share of the pure-play wafer foundry market, and its main competitors are TSMC, Globalfoundries, Samsung and SMIC. In 2020, the total operating income of these four companies accounted for 81.4% of the total pure-play wafer foundry market. UMC overtook Globalfoundries for second place and is behind TSMC (note: revenue of Samsung Foundry doesn't include income from Samsung LSI in-house ASIC business).

Future Supply-Demand Status and Market Growth

- According to the market survey of Semiconductor Industry Association (SIA), the total sales revenue of the semiconductor industry in 2020 was close to USD 433.0 billion, which has grown by 5.1% from 2019. The semiconductor sales revenue in 2021 is expected to rebound with 8.4% growth to reach USD 469.0 billion. According to the market survey of Semiconductor Industry Association (SIA), the sales revenue breakdown of the semiconductor industry by region in 2020 was as follows: North America at 21.5%, Europe at 8.4%, Asia (including China) at 61.8%, Japan at 8.3%.
- Looking forward to the driving force behind the pure-play foundry market growth, the growth momentum of fabless design companies typically outpaces the semiconductor industry, and IDMs have adopted or raised the ratio of wafer fabrication outsourcing to save costs and reduce market risk. Both of these factors have contributed to the high growth of the pure-play wafer foundry market; thus the performance of the pure-play wafer foundry industry is expected to be better than the overall semiconductor industry.

Niche of Competition

- UMC is optimistic about the demand for chips in the future market of mobile communication and computers; thus proper and cautious capital expenditure to promote the R&D of related processes and the expansion of production capacity has been conducted. The Company has also actively deployed its specialty technology solutions, such as high voltage, embedded flash memory, advanced packaging, RFSOI, etc., to continue working with leading customers to pursue more products. UMC is committed to providing sufficient production capacity and to establish an open technical platform with its back-end packaging and testing partners to provide proper services.
- The overall structure of Taiwan's semiconductor industry is complete, exhibiting world-leading competitiveness in terms of both operational efficiency and cost. Taiwan's semiconductor industry competitiveness combined with UMC's technical edge results in a positive multiplier effect for the Company.

Favorable Factors for Development Outlook

Considering the continuous growth of the IC industry, the ideal position of pure-play wafer foundry, and the company's competitiveness, the favorable factors of long-term company development are summarized as follows:

- Under the vertical division of labor trend of IC design and fabrication, there has been prosperous development of the pure-play wafer foundry market and growth of global demand for pure-play wafer foundry services.
- IDMs have adopted the strategy of outsourcing to wafer foundry, thus contributing to the growth of the pure-play wafer foundry market.
- Forming strategic alliances with major international companies and system companies to acquire long-term stable orders.
- A strong management team, advanced process R&D, and superior business development capability can result in outstanding operational performance.
- UMC is one of the most active in the foundry industry in developing 12-inch wafer fab manufacturing capabilities, owning a 12-inch fab in the Southern Taiwan Science Park, one in Singapore, another in Xiamen, China, and acquiring its latest one in Japan. As for the future investment in 12-inch fabs, the production capacity will be further expanded according to customer needs and market application trends.
- In response to the ongoing trends of electronic products, UMC has developed specialty technologies including embedded memory,

Overview of Market, Production, and Sales (Continue)

mixed signal, RF, MEMS sensor, and high voltage to meet customer demand for process technologies and to establish a leading position for UMC technology development.

- UMC has established the most powerful specialized IoT platform solution in the industry and provided an ultra-low-power (ULP) process with extremely low current leakage design suitable for all kinds of hybrid process technologies. IoT chip designers can integrate various process schematics to the customized platform based on UMC's low power consumption technology in order to meet the specific requirements to enter the IoT and wearable electronic device markets.
- UMC developed an advanced 28nm eHV (embedded High-Voltage) process, and successfully mass-produced AMOLED display driver ICs. Compared to previous-generation technologies, display drivers designed using 28nm eHV could improve the power efficiency of smart phone screens. Looking forward, the rising demand of 5G smart phones is expected to bring considerable revenue growth.
- UMC developed advanced 28nm technology, including Poly-SiON and high-K metal gate processes, which have already been mass-produced successfully for many logic/RF products. Besides these, an automotive-grade process was also qualified and related IP is ready, with many customers designing-in now.
- UMC's 22nm technology process provides customers further advantage for cost-saving and improved device efficiency. The process design kit has been released to customers; UMC expects this process will extend the Company's long-term competitiveness.
- UMC's 14nm (FinFET) process technology already successfully entered mass production for customer chips in early 2017. The yield for shipments to primary customers has reached industry competitive levels for this highly advanced process. Being one of the few foundries in the world to achieve 14nm production capabilities, UMC has fully demonstrated the advantages of 14nm FinFET in terms of efficiency, power, and gate density in order to drive next generation ICs in the fields of communication, AI, and various consumer products. UMC's 14nm FinFET is 55% faster with twice the gate density of 28nm, while power consumption is reduced by around 50%.
- UMC developed a mmWave process technology—on nodes ranging from 55nm to 40nm ultra low power, and a 28nm high performance/low power platform. The Company is developing 22nm ultra low power/ultra low leakage process technology, which offers customers more choices for their product planning to meet reliable, low power and cost-effective requirements.
- UMC RFSOI technology is based on a CMOS process to meet cost effective and strict technology requirements for the smartphone market. The RFSOI technology platform provides RF N-gate/P-gate MOS and scalable advanced RF modeling to precisely predict the circuit characteristics of the process. High-density and high-voltage MIM, scalable inductor and high-precision resistors will provide UMC customers with the best design and cost advantage.
- The process platform of 40nm integrated with Silicon Storage Technology (SST) embedded SuperFlash® non-volatile memory is 20% smaller than the mass production 55nm unit, and the total memory area has been reduced by 20%~30%. There have been more than 30 customers and products manufactured at all stages based on UMC's 55nm SST embedded flash memory process, including SIM card, financial transaction, automobile, IoT, MCU, and other product applications.
- The MEMS gas flow sensor process platform jointly developed by UMC and one of its customers is in successful mass production and has been provided to end customers in various fields, including smart home appliance and IoT. Currently the customer has successfully sent samples to major brand makers to be tested.
- UMC provided Through Silicon Via (TSV) 2.5D/3D IC technology to customers requiring advanced packaging technology under the environment of an open supply chain cooperative development, a complementary and complete platform can be formed to provide a reliable 2.5D/3D IC solution for the semiconductor market.
- Besides advanced silicon processes aimed to address higher voltage and higher frequency device requirements of 5G, UMC developed new semiconductor materials as well, including GaAs that has already entered mass-production and GaN for high-power applications in 5G communications. The Company expects to have a place in 3rd-generation semiconductor materials, which will contribute to future revenue.

Overview of Market, Production, and Sales (Continue)

Unfavorable Factors for Development Outlook

- Due to the optimism of future long-term annual growth for semiconductor demand, all major global pure-play wafer foundries and China have increased their capital expenditures for expansion of production capacity. UMC will be more cautious in its long-term demand forecast.
- The negative impact to foundry by COVID-19, include at least 3 possible scenarios: First is to disrupt global semiconductor supply chain and the operation of UMC's suppliers, second is the downturn pressure for global customer's demand, third is potential production delay due to shutdown of factory manufacturing or partial closure of operation.
- Among political and economic tensions between international society, countries have been sanctioning competing countries in an attempt to inhibit their market expansion and technology development. This impacts the company's investment and operation activities. The U.S.-China trade war was caused by a long-term trade deficit between U.S. and China, and U.S. concerns about infringement of intellectual property rights and business secrets. This trade war is not expected to conclude in the near future and may even become a long-term confrontation. Intervention includes tariffs, closed sales, policy intervention and government subsidy, etc. The impacts to UMC, including a tariff barrier between the U.S. and China, will lower semiconductor demand from the U.S., China and even worldwide, with customers reducing orders and a weakening global semiconductor market. U.S. regulation to stop foreign shipments of products containing U.S. technology to China's companies will possibly impact UMC's shipment to China's customers. High-tech material export bans bring uncertainty to UMC's production and time-to-delivery. U.S. trade bans on specific companies in China will possibly lead to supply chain re-arrangement, which will result in tighter foundry capacity allocation.

Countermeasures

- Continuous cost saving and efficiency enhancements to effectively reduce costs, and cautiously and effectively expanding the production capacity of advanced processes; strengthening the competitive edge of the Company by increasing the ratio and product mix towards high-end processes.
- Acquiring existing fabs through a more flexible strategy to expand the footprint of fab capacity through investment participation and strategic alliances to reduce the time, risk, and cost of construction of new fabs and to serve local markets.

- Diversification of customer regions and products can lower the impact of the trade war. Besides existing strong business from China and the U.S., UMC plans to expand more business from Europe, Japan, Korea, etc. To avoid the uncertainty of previous high growth business from server, automotive and industrial markets, UMC plans to gain more business opportunities from 5G, IoT, AI, etc.
- Avoiding blind expansion of production capacity; all investment plans have been carefully evaluated with complete consideration of UMC's maturity of high-end processes and customer production capacity demands at various stages.
- In response to the addition of new competitors, UMC continues to enhance development of advanced processes, and maintains the existing advantages of stable high yield and complete services. The benefits of these are twofold: UMC can increase its lead against new competitors while also creating differentiation such that UMC can continue to be the best option for its customers.
- Providing the most advanced and proper process services with respect to IC product characteristics in all application fields in order to help customers achieve the goals of lowest cost, high efficiency, and low power consumption.
- Strengthening marketing effectiveness and the customer service mechanism in order to continuously improve customer satisfaction.
- Strengthening the development of long-term partnerships with customers, providing competitive advanced processes and production capacity, helping customers expand their market share, and growing together with customers in order to seize the opportunity of new growth waves.
- Taking countermeasures at all times to respond to constant market variations while facing global recession. Expanding customer bases, improving product mix, and further enhancing the flexibility of production capacity allocation in order to mitigate the impact of periodic demand fluctuation.

Overview of Market, Production, and Sales (Continue)

Important Purposes and Production

Processes of Main Products

Main Process Technologies and Corresponding Products

- CMOS Logic: for fabricating chips that execute logic computing functions, such as programmable gate array, multimedia processor, and application processor chips.
- Mixed-Signal: for fabricating chips which can simultaneously process analog/digital mixed signal, such as ICs for broadband access communication and optical storage.
- RF CMOS: for fabricating high frequency wireless communication chips, such as ICs for cellphone RF transceiver, Wireless Local Area Network (WLAN) and Bluetooth.
- Embedded Memory: for fabricating integrated logic and memory chips for high performance with low power consumption, such as chips for micro-controller, touch controller, and smart card.
- High Voltage: for fabricating driver ICs for LCD TV, cellphone, tablet, e-paper screen driver IC, and power management IC.
- CMOS Image Sensor: for fabricating CMOS image sensors used in digital camera, cellphone, and webcam.
- MEMS: for making application products such as microphone, inertia sensor, and pressure sensor.
- 3D FinFET: for fabricating high performance chips and chips for executing fast logic computation, such as mobile phone baseband processor, application processor, and memory controller.

- RFSOI process: for fabricating wireless front-end chips, such as wireless switch, tuner used by mobile phones, WLAN, and wireless base station.
- GaAs process: for power amplifier IC of handset and base station.
- GaN process: for RF IC of power amplifier IC, LNA in 5G base station, and DC-DC converter in high-power portable battery charger in handset, tablet, and notebook, power supply of workstation and server, and DC-DC converter in EV.
- 3D IC package: for many applications in HPC, 5G, datacenter and automotive.

Production and Fabrication Process

A complete IC chip fabrication process can be divided into five processes, including IC design, mask fabrication, wafer fabrication, packaging, and testing. UMC has been dedicated to the R&D of advanced IC processes and specialty technologies in order to provide customers with wafer fabrication technologies required by their IC designs.

Status of Supply of Primary Raw Material

Type of Primary Raw Material	Primary Suppliers	Market Status of Suppliers	Procurement Strategy
Silicon Wafer	<ul style="list-style-type: none"> S.E.H. Taiwan (manufacturing sites: US, Japan, Taiwan and Malaysia) SILTRONIC Singapore (Manufacturing sites: Germany, US and Singapore) Global Wafers (Manufacturing sites: US, Taiwan, Italy and Japan) SUMCO Group (Manufacturing sites: Japan and Taiwan) SK Siltron (Manufacturing site: Korea) 	These five makers are the world's primary silicon wafer suppliers with production sites in the US, Japan, Germany, Italy, Korea, Taiwan and Southeast Asia, who can offer steady and high quality silicon wafers.	<ol style="list-style-type: none"> The Company has been in long-term procurement relationships with the world's primary suppliers in order to ensure the steady access to production material. In recent years the ratio of procurement from local makers has increased maturely, which can reduce the risk of international transportation and procurement cost. The Company will convene a supplier management committee meeting every quarter to evaluate suppliers' performance in order to adjust the ratio of procurement from these suppliers. The Company established a sourcing committee to implement source integration and development more effectively and to gain the most benefit of cost reduction.

Major Suppliers

In Thousand NTD

Name	2020			2019		
	Amount	Percentage of Net Purchase	Relation to UMC	Amount	Percentage of Net Purchase	Relation to UMC
Supplier "A"	5,329,822	11	None	5,675,751	14	None
Others	41,767,109	89		35,982,480	86	
Net Purchase	47,096,931	100		41,658,231	100	

Note: As of the Annual Report printing date, if there is any financial data of the publicly listed company (or company with stocks transaction in securities firm's premises) certified or approved by CPA audit, it should be disclosed: None.

Reasons for changes in procurement amount: No major changes.

Major Customers

In Thousand NTD

Name	2020			2019		
	Amount	Percentage of Operating Revenues	Relation to UMC	Amount	Percentage of Operating Revenues	Relation to UMC
Customer "A"	20,380,814	12	None	17,576,293	12	None
Others	156,440,100	88		130,625,348	88	
Operating Revenues	176,820,914	100		148,201,641	100	

Note: As of the Annual Report printing date, if there is any financial data of the publicly listed company (or company with stock transactions in securities firm's premises) certified or approved by CPA audit, it should be disclosed: None.

Reasons for changes in sales amount: Due to the increased demand of communication products, the contribution of customer "A" increased.

Production Figures

Segments	Unit	2020			2019		
		Capacity	Production Quantity	Production Value (In Thousand NTD)	Capacity	Production Quantity	Production Value (In Thousand NTD)
Wafer Fabrication	In Thousands of 8-inch Wafer Equivalents	9,188	8,893	133,991,069	8,148	7,229	123,055,291
New Business				-			227,873
Total				133,991,069			123,283,164

Sales Figures

Segments	Unit	2020			2019	
		Shipments	Amount (In Thousand NTD)	Shipments	Amount (In Thousand NTD)	
Wafer Fabrication	In Thousands of 8-inch Wafer Equivalents	Domestic	3,705	63,829,608	2,977	53,190,058
		Export	5,208	106,055,593	4,212	89,434,961
New Business		Domestic		468		17,627
		Export		3,226		26,118
Total		Domestic		63,830,076		53,207,685
		Export		106,058,819		89,461,079

Note: Net Sales.

Industry Specific Key Performance Indicators

KPI	2020		
	Target	Actual	Difference
Utilization Rate	89.6%	96.9%	7.3ppts
Wafer Sales Contributed from 40nm and below Technologies	33.7%	36.9%	3.2ppts

Employees

Number of Workers

	2021	2020	2019
Engineers	11,361	11,377	11,328
Administrators	805	795	809
Clerks	3	3	24
Technicians	7,116	7,211	7,416
Total	19,285	19,386	19,577

Average Age

	2021	2020	2019
Average Age	37.9	37.7	37.1

Average Service Years

	2021	2020	2019
Average Service Years	11.3	11.2	10.5

Educational Distribution Ratio (%)

	2021	2020	2019
Ph.D	1.5	1.5	1.6
Master	27.2	27.2	28.1
Bachelor/Associate/Diploma	49.2	49.0	47.6
High School and Below	22.1	22.3	22.7

Note: The data represented for 2021 was gathered until February 24, 2021.

Environmental Expenditure Information

By the publication date of the 2020 annual report, all audits on UMC by environmental protection agencies showed results in compliance with regulatory requirements with no environmental protection violations or any penalty or loss resulting from environmental pollution.

UMC has identified environmental risks during the operational process according to the spirit of international environmental management system (ISO14001) standards, based on which corrective and preventive measures can be continuously conducted, including equipment hardware improvement, enhancement of personal educational training, and strengthening of operating system management.

In 2020, the total environmental protection related expenditures for all UMC fabs exceeded NTD 2.17 billion. The environmental related expenditures include investment in highly efficient pollution prevention technology and preventive equipment, totaling NTD 710 million. The monthly pollution prevention expenses and O&M of pollution prevention equipment exceeded NTD 88.8 million, while the monthly waste disposal cost exceeded NTD 20.4 million. Meanwhile, NTD 17 million has been

spent on annual environment monitoring to track the overall emission of pollutants. In addition, in response to RoHS (Restriction of Hazardous Substances), around NTD 570,000 has been spent on continuous certification of the QC-080000 IECQ HSPM system, product inspection, and educational training.

In the future, the Company's primary environmental protection expenditures and items will include: 1. Costs of replacement, renewal, and upgrade of existing pollution prevention equipment; 2. Operational costs of pollution prevention equipment; 3. Waste disposal costs, and 4. Environmental monitoring costs.

Labor Relations

UMC has consistently valued employee benefits and welfare, and has actively cultivated talent, implemented labor laws and regulations, protected employee rights and interests, and created a bright and pleasant working environment. UMC complies with various local laws and regulations, and strengthens employee awareness to prevent labor disputes. Through channels such as labor-management meetings, divisional meetings, forums, suggestion boxes, grievance hotlines staffed by complaint specialists, and communication management units, the Company has achieved competent communication and effective problem-solving.

In addition to effectively maintaining harmonious labor relations, UMC respects and promotes international human rights by providing employees with a quality employment environment. Moreover, in UMC and all its subsidiaries, the management and implementation of labor relations such as employee welfare measures, in-service education, training and retirement systems are planned and conducted in accordance with or above and beyond the requirements of law. UMC has also set up in-house physicians to provide medical services and quality counseling services for the physical and mental health needs of employees, thereby promoting harmonious labor relations.

UMC is committed to providing employees with a safe and friendly working environment. Through continuous efforts, UMC has received numerous awards from the Science Park Bureau for promoting workplace safety

and health, labor relations, and the national excellence award for friendly workplace. Among these awards, the Special Distinction Award was given by the Hsinchu Science Park Bureau for Excellent Workplace Equality and Southern Taiwan Science Park Bureau for Advanced Workplace Equality. At the same time, UMC also won various corporate sustainability awards in 2020. For corporate sustainability, UMC ranked in the top 5% for corporate self-governance, and has won the Taiwan Corporate Sustainability Platinum Award, Ministry of Economic Affairs Energy Saving Benchmark Award and National Enterprise Environmental Protection Award. In addition, UMC has been listed on the Dow Jones Sustainability Index (DJSI) for 13 consecutive years.

From recent years to the publication of this annual report, UMC has not suffered any loss arising from labor disputes. In view of the abovementioned comprehensive system and diligent management, UMC can continue to effectively avoid labor disputes or losses.

Education and Training

High-quality talent is the cornerstone of UMC's competitiveness, and comprehensive talent development and cultivation are the keys to improving human resource quality. UMC's human resource cultivation policies are tailored according to the career development needs of employees in their particular job type and rank. The policies provide systematic training for all employees, such as new employee, technical, management, quality control and language courses. In addition, a wide range of learning resources such as online learning courses, on the job training (OJT) and in-service training are also offered to provide all employees with a working environment that is conducive for continuing development. In 2020, UMC conducted a total of 7,368 training sessions, totaling 12,511 hours of training, with 168,064 participants and total training expenses of NTD 54,309,728.

The following is a summary of training courses provided by UMC:

- **New Employee Orientation:** To help new employees quickly adapt to the work environment, orientation training is provided for new employees to give them a basic understanding of semiconductor processes and establish a common language. In addition to basic courses on company organization, remuneration and benefits, basic daily necessities and industrial safety, U-Camp courses on workplace stress management and adopting a positive attitude also help new employees understand the spirit and values of UMC. To help new employees quickly develop professionalism and an appropriate job attitude, they are paired with a mentor to help them quickly integrate into the corporate culture.
- **Technical Training:** To help engineers quickly master the overall technologies and continue to advance technologically, UMC has a comprehensive training blueprint for engineers that is specific to divisional attributes. The curriculum includes basic courses (General to Level 2 courses) and advanced, technology-specific themed seminars (Level 3 - 4 courses) to enhance the technical capability of the engineers and develop a system of internal experts. In addition, to equip employees with multiple skills and promote cross-divisional cooperation, UMC continues to promote inter-divisional training courses to increase the depth and breadth of professional and technical training for employees. Furthermore, curriculum content is continuously improved to meet the rapid changes and progress of technology.
- **Management Skills Training:** Management skills development is an important task for supervisors at all levels. To this end, UMC provides a series of courses targeting competencies relevant to supervisors, such as management behavior, skills, knowledge and corporate culture integration. To assist supervisors with achieving cooperation in their work and management, learning resources such as foreman/sectional chief, grassroots supervisor, middle-level supervisor and senior executive training courses are conducted.
- **Quality Training:** Training courses relevant to UMC quality policies and quality requirements are conducted, such as knowledge management, proposal improvement, project management, problem analysis techniques, statistical process control and experimental design.
- **Language Training:** Employee language proficiency is determined through language testing. Training programs targeting specific learning needs are then provided accordingly to strengthen employee language skills and workplace competitiveness.
- **E-Learning:** UMC has established a learning webpage for employees that integrates all course information, training systems and data enquiries. The online platform enables employees to easily access needed information for planning and learning without schedule constraints.
- **On the Job Training:** Each fab has an Education Committee to provide training for employees in the various divisions. The training is based on skills required by specific jobs and professional skills assessment to ensure that employees have the required job competencies. Additional training based on individual differences is also provided to improve the quality of work. The Human Resource Division conducts an annual review of training outcome to determine and direct the operations of the Education Committee in each fab, and convenes a training outcome meeting so that the fabs can share their experience.
- **In-service Training:** UMC provides information on in-service courses offered by outside colleges and universities, promotes educational resources and offers subsidies for in-service training to encourage employees to develop the professional competencies or management skills required at each stage of their career.
- **Business Ethics Training:** To enhance the behavioral literacy, professional ethics and professional competence of UMC and all its employees, courses on employee ethics, insider trading prevention and conflict of interest are conducted within the Company and promoted in the Planning Section of the UMC intranet site. To gain public trust, all employees (including high-level executives and other managers in the operation team) are expected to abide by the ethical spirit of the Company in their daily tasks and businesses, thereby ensuring the sustainable growth and development of the Company.

To ensure effective training direction and implementation, the Human Resource Division develops education and training projects in the fourth quarter of each year according to annual company-wide policies, the General Manager's directives for training focus and direction, and company-wide survey of training needs. The projects include company-wide, cross-divisional and divisional training programs. Program implementation is reviewed each quarter, and corrective and improvement measures are proposed for unachieved goals to ensure the effectiveness of specific employee training.

UMC believes that creating a high-quality work and learning environment can increase employee performance output and retention, and that high-quality employees who continue to develop are the key foundation to the sustainable development of UMC.

Employee Benefits

Employee Welfare System

UMC believes that employees are the most important assets of the Company, and that a company can continue to develop and progress only with appropriate and sufficient talent. To this end, UMC is committed to creating a healthy workplace environment. In addition to providing competitive salaries and dividends, a comprehensive education and training system, diverse benefits and a safe and healthy working environment, UMC has also developed a comprehensive employee welfare system in accordance with local laws and regulations and regional needs.

UMC provides a variety of welfare measures as follow:

- Nutritionally balanced and delicious meals: Each fab has its independently operated cafeteria and a variety of meal options. By combining the cafeteria, cafe and convenience store into an integrated dining area, employees can enjoy healthy and balanced meals.
- Fitness Sports Center: UMC operates its own recreation center in the Hsinchu science park, and Tainan Fab 12A has the UMC Park Activity Center, a multi-purpose sports center gym and the LM Dormitory gym. In addition, other facilities such as gyms and aerobics classrooms are located in appropriate areas of UMC fabs to reflect the concept of a healthy workplace.
- Welfare Events: The Welfare Committee routinely organizes events (such as Family Day, art activities, movies, trips), and in coordination with company celebrations, organizes inter-fab competitions to cultivate team unity. At the same time, other inter-divisional and inter-fab activities are held during holidays to enhance employee work-life balance.
- Club Recreation: UMC has five major categories of clubs, such as sports, arts and community service. Whether active or more sedentary, employees can choose from a variety of content. In 2020, UMC had a total of 30 clubs and about 2,369 participants.

- Accommodation and transportation assistance: UMC provides safe and comfortable accommodations for both direct labor and indirect labor. Free scheduled transportation and shuttle services are also provided for convenient and quick connections.

At the same time, the UMC Welfare information platform was optimized in 2018 with the introduction of the Welfare Club APP; through GPS, employees can instantly find contract stores, thereby further enhancing their after-work life.

UMC also holds employee health in high regard, and plans and implements benefits in accordance with or above and beyond the requirements of the law. For example, UMC complies with the Act of Gender Equality in Employment, the Regulations for Establishing Measures of Prevention, Correction, Complaint and Punishment of Sexual Harassment at Workplace, and regulations for leave such as personal, sick, maternity, paternity, menstrual, family care, marital, bereavement, occupational sickness, annual, parental and nursing leaves.

In particular, UMC is the first private enterprise in the country to promote a 12-hour rotating shift for its direct labor. Further worth mentioning is the Company's comprehensive insurance system where from the day of their employment, employees are provided with numerous insurance services. In addition to labor, health and free group insurance (NTD 2 million group insurance and cancer insurance), the spouse and children of employees can enjoy life insurance, accident insurance and group medical insurance, and their parents can enjoy accident and medical insurance, thereby freeing them of worry and enabling them to work their best for the Company and society.

Employee Benefits (Continue)

Employee Health

UMC has a longstanding commitment to creating a workplace environment that is physically, mentally and spiritually healthy. UMC is convinced that only employees who are physical and mentally healthy can be highly efficient and produce excellent work performance. In addition to assisting employees in all aspects of health management and health promotion, UMC also reaches out to their families in the hope of boosting employee work morale and improving the quality of their work.

While valuing the physical condition of employees, UMC also spares no effort in their mental health management. Through a confidential agreement mechanism, employees are also provided with free professional psychological counseling. Moreover, employees and their families are given new health knowledge through online platforms, lectures, conference and publicity materials to help them maintain good physical and mental health.

To help employees balance their physical and mental health and that of their families in their busy work life, UMC provides free counseling services to ensure the mental health of employees. Through confidential professional counseling, employees are assisted in addressing their psychological and spiritual issues. In addition, through the Internet, brochures and lectures, employees are given the knowledge and skills for healthy living, thus enabling them to meet the multiple challenges of work and family.

In 2020, UMC adopted the "2020 Health Care 2.0" as the main focus of health promotion activities for each quarter, and integrated occupational safety and health laws such as maternal protection, overwork prevention, human factors engineering and healthy body posture guidelines to protect employee health. At the same time, medical checks for employees and hospital check-ups for their families are provided annually. A variety of health promoting activities and education are then organized for employees accordingly to give them further knowledge and skills for self-managing their health and the health of their families. Furthermore, through occupational safety and health project management, UMC's

Health Center has installed an internal reporting system for potential occupational chronic injury and disease, with regular hearing inspections and vision care programs to effectively prevent occupational injuries. Moreover, as of 2020, UMC's IT divisions have integrated their existing systems to construct a customized personal Health Care System for employees. In addition to checking their own health check reports over the years, colleagues can also receive system notifications on the day of consultation with medical staff, and immediately read and confirm consultation related information, which improves the timeliness and care rate of the medical team's care. In addition to regulatory annual checkups, UMC also offers a variety of preventive screening and health promoting activities such as other cancer screening, flu vaccination, abdominal ultrasound and other out-of-pocket items so that employees can choose appropriate health checks according to their needs.

Risk control identifies and mitigates risks before they can cause harm, and to minimize the probability of occurrence and degree of damage, the Health Center must naturally assume frontline duty. The above-mentioned health management methods and health promotion activities are intended to ensure that employees sufficiently understand and actively participate in improving their own health condition, so that the purpose of early diagnosis and treatment can be achieved. It is hoped that every employee can support and grow with the Company, and can work together for the sustainable development of UMC.

Labor Pension System

In terms of labor pension system, UMC allocates the worker's retirement reserve funds to the Labor Pension Reserve Supervisory Committees in compliance with regulations, and processes the employee labor pension payment in accordance with the Labor Standards Law. Since July 1, 2005, for employees who opt for the retirement system under the Labor Pension Act, 6% of their monthly salary is paid into their individual labor pension account to secure their rights and interests.

Major Contracts

Supply and Marketing

The Company has signed sales and service contracts with the following companies to grasp the current situation of the global market. In addition,

UMC maintains long-term business relationships with major wafer material suppliers. The main supply and sales contracts are as follows:

Contract Type	Contracted Party	Contract Period	Key Content	Restrictive Clause
Sales	UMC Group (USA)	Jan. 1, 2019~Dec. 31, 2024	Sales and related service for semiconductor products	None
Service	United Microelectronics (Europe) B.V.	Jan. 1, 2018~Dec. 31, 2022	Marketing support service for semiconductor products	None
Service	UMC Korea Co., Ltd.	Jan. 1, 2020~Dec. 31, 2020 Jan. 1, 2021~Dec. 31, 2025	Marketing support service for semiconductor products	None
Service	HeJian Technology (Suzhou) Co., Ltd.	Jan. 1, 2020~Dec. 31, 2024	Marketing support service for semiconductor products	None
Service	United Semiconductor Japan Co., Ltd.	Jan. 1, 2020~Dec. 31, 2024	Marketing support service for semiconductor products	None
Purchase	Shin-Etsu Handotai Taiwan Co., Ltd.	Indefinite	Wafer material supply	None

Patent and Technology Licenses

UMC values and protects intellectual property rights. With nearly 40 years dedication in earning semiconductor patents, UMC has achieved a predominant position in the semiconductor industry. UMC also enters into patent or technology license contracts with major semiconductor

or technology patent holders to ensure that UMC's customers are not subject to the risk of wafer process infringement. The following are patent licensing contracts received and given by UMC:

Contract Type	Contracted Party	Contract Period	Key Content	Restrictive Clause
Patent Cross-license	International Business Machines Corporation	Jun. 25, 2009~Jun. 30, 2029	Patent cross-licensing for semiconductor process, semiconductor device and semiconductor design.	None
Technology License	International Business Machines Corporation	From Jun. 29, 2012	IBM licensed its 20nm CMOS and FinFET technology to UMC.	None
Patent License	Conversant Intellectual Property Management Inc. & Conversant IP (Taiwan) Inc.	From Feb. 08, 2018	License for specific patents.	None
Patent Cross-license	International Business Machines Corporation	Jun. 13, 2013~Dec. 30, 2035	Patent cross-license for semiconductor process, semiconductor device and semiconductor design.	None
Technology License	HeJian Technology (Suzhou) Co., Ltd.	Jul. 11, 2013~Jul. 10, 2028	UMC licensed its 0.13um process technology to HeJian Technology (Suzhou) Co., Ltd.	UMC signed and implemented the contract in accordance with the scope approved by the Investment Commission, Ministry of Economic Affairs.
Technology License	Mie Fujitsu Semiconductor Limited	From Aug. 29, 2014	UMC licensed its 40nm process technology to Mie Fujitsu Semiconductor Limited.	None

Major Contracts (Continue)

Contract Type	Contracted Party	Contract Period	Key Content	Restrictive Clause
Patent Cross-license	Avago Technologies International Sales Pte. Limited	Sep. 29, 2018~Dec. 31, 2023	Patent cross-license for semiconductor device related patents.	None
Patent License	NXP B.V.	Sep. 30, 2015~Sep. 29, 2020	Patent license and assignment of right for patent application.	None
Patent Cross-license	Katana Silicon Technologies, LLC	From Nov. 05, 2019	License for specific patents.	None
Technology License	United Semiconductor (Xiamen) Co., Ltd.	Apr. 01, 2017~Mar. 31, 2022	UMC licensed its 28nm process technology to United Semiconductor (Xiamen) Co., Ltd.	UMC signed and implemented the contract in accordance with the scope approved by the Investment Commission, Ministry of Economic Affairs.
Technology License	United Semiconductor (Xiamen) Co., Ltd.	Nov. 23, 2018~Nov. 22, 2028	UMC licensed its 80/90nm process technology to United Semiconductor (Xiamen) Co., Ltd.	UMC signed and implemented the contract in accordance with the scope approved by the Investment Commission, Ministry of Economic Affairs.
Patent Cross-license	Polaris Innovation Limited	From Mar. 20, 2020	License for specific patents.	None

Technology Collaboration

Contract Type	Contracted Party	Contract Period	Key Content	Restrictive Clause
Technology Development	Fujian Jinhua Integrated Circuit, Co., Ltd.	May 13, 2016~May 12, 2021	Collaborative development of DRAM process technology	UMC signed and implemented the contract in accordance with the scope approved by the Investment Commission, Ministry of Economic Affairs.

Construction

Contract Type	Contracted Party	Contract Date	Key Content	Restrictive Clause
Construction	Wholetech System Hitech Limited, Hueng Luei Process Industry Co. Ltd., Worldwide Co. Ltd., Princeton Precision Industries Co., Ling-yong International Engineering Corporation, L&K Engineering Co. Ltd. and others.	From Jan., 2020	For building the facilities of Fab 12A in the Tainan Science Park, UMC signed construction contracts with the vendors including but not limited to those major vendors listed in the second column. The total contracted amount exceeded NTD 2 billion.	None
Construction	L&K Engineering (Suzhou) Co., Ltd., Wholetech Group (Shanghai) Trading Co., Ltd., Shanghai Nomura Engineering Co. Ltd., Hengyuan Allis Electric Co., Ltd. and others.	Jan. 01, 2020~Dec. 31, 2020	United Semiconductor (Xiamen) Co., Ltd. entered into construction contracts with the vendors including but not limited to those major vendors listed in the second column for building fab facilities. The total contracted amount exceeded USD 20.95 million.	None
Construction	Suzhou Topco Construction Ltd.	May 01, 2019~Jun. 30, 2020	HeJian Technology (Suzhou) Co., Ltd. entered into construction contracts with the vendors listed in the second column for HeJian New Phosphorus Wastewater Treatment System. The total contracted amount exceeded RMB 13.18 million (excluding tax).	None

Review of Financial Position, Operating Results, Risk Management

- 142 Financial Position
- 143 Financial Performance
- 144 Cash Flow
- 144 Major Capital Expenditures from Recent Years and Impact on
Company's Finance and Business
- 144 Main Reasons and Improvement Plans for Recent Annual
Reinvestment Policies and Profit or Loss, and Investment Plans for
the Coming Year
- 145 Risk Management and Evaluation
- 154 Other Necessary Supplements

Financial Position

In Thousand NTD

	2020	2019	Differences	Differences(%)
Current assets	164,305,911	153,757,141	10,548,770	7
Property, plant and equipment	132,774,663	150,374,096	(17,599,433)	(12)
Intangible assets	4,877,913	5,198,247	(320,334)	(6)
Other assets	75,557,888	60,857,881	14,700,007	24
Total assets	377,516,375	370,187,365	7,329,010	2
Current liabilities	78,243,526	72,714,322	5,529,204	8
Non-current liabilities	63,499,747	90,258,621	(26,758,874)	(30)
Total liabilities	141,743,273	162,972,943	(21,229,670)	(13)
Capital	124,224,015	117,575,798	6,648,217	6
Additional paid-in capital	43,211,214	39,550,394	3,660,820	9
Retained earnings	80,176,360	60,820,280	19,356,080	32
Total equity	235,773,102	207,214,422	28,558,680	14

Analysis of deviation of over 20% between 2020 and 2019:

1. Other assets:
Due to the increase in investments accounted for under the equity method.
2. Non-current liabilities:
Due to the reclassification of long-term loans to current liabilities.
3. Retained earnings:
Due to the increase in net income for the period.

Financial Performance

In Thousand NTD

Items	Years	2020	2019	Differences	Differences (%)
Operating revenues		176,820,914	148,201,641	28,619,273	19
Operating costs		(137,823,813)	(126,886,669)	(10,937,144)	9
Gross profit		38,997,101	21,314,972	17,682,129	83
Operating expenses		(23,243,584)	(21,807,284)	(1,436,300)	7
Net other operating income and expenses		6,253,890	5,182,162	1,071,728	21
Operating income		22,007,407	4,689,850	17,317,557	369
Non-operating income and expenses		5,918,772	1,045,787	4,872,985	466
Income from continuing operations before income tax		27,926,179	5,735,637	22,190,542	387
Income tax (expense) benefit		(745,767)	393,130	(1,138,897)	(290)
Net income		27,180,412	6,128,767	21,051,645	343

Analysis of deviation of over 20% between 2020 and 2019:

- Gross profit
Due to the increase in capacity utilization for the period partially offset by the impact of the appreciation of the Taiwan dollar against the US dollar.
- Net other operating income and expenses
Due to the increase in gain on disposal of buildings.
- Non-operating income and expenses
Due to the increase in net gain of financial assets and liabilities at fair value through profit or loss caused by stock market volatility and increase in share of profit of associates and joint ventures.
- Income from continuing operations before income tax
Due to the increase in gross profit for the period.
- Income tax (expense) benefit
Due to the increase in income from continuing operations before income tax for the period.

Cash Flow

Analysis of Cash Flow for the Year Ended December 31, 2020

In Thousand NTD

Cash at Beginning of Year	Net Cash Flow from Operating Activities	Net Cash Flow from Investing and Financing Activities	Cash at End of Year	Remedial Measures for Cash Flow Shortfalls	
				Investment Plans	Financing Plans
95,492,477	65,745,192	(67,189,633)	94,048,036	-	-

Note: Net cash flow from investing and financing activities includes the effect of exchange rate changes of NTD (1,476,786).

Analysis of Cash Flow

1. Operating activities:

Net cash flow from operating activities is mainly from adding back depreciation expense to net income.

2. Investing activities:

Net cash flow from investing activities is mainly from acquisition of property, plant and equipment, acquisition of intangible assets and increase in other financial assets.

3. Financing activities:

Net cash flow from financing activities is mainly from repayments of long-term and short-term loans and bonds, distribution of cash dividends and acquisition of treasury stock, which are partially offset by borrowing long-term and short-term loans and treasury stock sold to employees.

4. Remedial measures for cash flow shortfalls:

Not applicable.

Analysis of Cash Flow in the Coming Year

In Thousand NTD

Cash at Beginning of Year	Estimated Net Cash Flow from Operating Activities	Estimated Net Cash Flow from Investing and Financing Activities	Estimated Cash at End of Year	Estimated Remedial Measures for Cash Flow Shortfalls	
				Investment Plans	Financing Plans
94,048,036	68,664,416	(68,116,173)	94,596,279	-	-

Major Capital Expenditures from Recent Years and Impact on Company's Finance and Business

Execution Status of Major Capital Expenditures and Sources of Funding

In Thousand NTD

Operating Segment	Project	Actual and Expected Sources of Funding	Completion Status (Up To 2020)	Total Amount (Up To 2020)	Capital Expenditures Plan	
					2020	2019
Wafer Fabrication	Production Equipment	Cash flows generated from operations, bank loans and issuance of bonds	Completed	41,719,539	25,845,056	15,874,483
	R&D Equipment	Cash flows generated from operations, bank loans and issuance of bonds	Completed	4,112,751	2,245,462	1,867,289
New Business	Production and R&D Equipment	Cash flows generated from operations and bank loans	Completed	32,638	13,950	18,688

Expected Benefit from Capital Expenditures

Based on aforementioned capital expenditures, in 2020 the ratio of production capacity from high-end processes of 40nm or below is above 30%, of which the production capacity for high-end 28nm or below has grown by 5% from the previous year.

Main Reasons and Improvement Plans for Recent Annual Reinvestment Policies and Profit or Loss, and Investment Plans for the Coming Year

China's domestic market demand for semiconductors now ranks No. 1 in the world, and the Chinese government has recently adopted a multi-pronged approach to support its semiconductor industry. To be more aligned with the market and better meet the needs of IC design companies in China, as of December 31, 2020, UMC and its subsidiaries have invested about USD 1.37 billion into United Semiconductor (Xiamen)

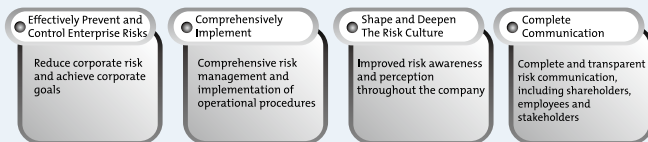
Co., Ltd's 12-inch fab for 28-90nm wafer service to pursue further growth of the Company.

UMC's investment policies are based on long-term strategic investments to match the Company's operations and development.

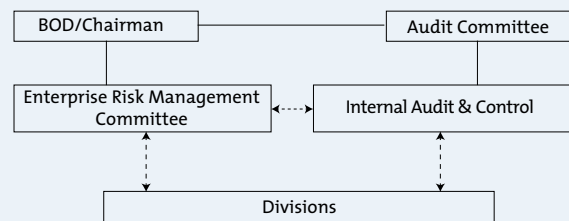
Risk Management and Evaluation

Enterprise Risk Management Policies

Through risk management methods and organizations, UMC effectively prevents and controls enterprise risks, comprehensively implements them in daily operations, shapes and deepens risk culture, and establishes transparent and smooth risk communication to maintain steady operations.



Enterprise Risk Management Architecture and Operation



Under the guidance of the risk management policy, the Enterprise Risk Management Committee coordinates relevant departments of the company to jointly review the internal and external risks that the company faces. The Committee integrates the identified various risk items, including strategy, operations, finance, hazards, etc., assesses the likelihood and severity of their occurrence, defines the priority order and risk level of risk items, and takes response actions for major corporate-wide risk issues. And, the committee makes a summary report to the Board of Directors every year.

The management plan includes periodic reviews of the potential occurrence of risks and the potential for changes in severity over time, and whether the risk level of major risks is reduced after the implementation of countermeasures to grasp the effectiveness of risk management. The Committee also incorporates internal audit and internal control functions to ensure that the risks associated with operations have been effectively controlled.

Risk event impacts and measures include important risks related to environmental, social or corporate governance issues of the company's operations.

Future R&D Projects and the Estimated R&D Expenses

Estimated annual R&D expenses for the next three years

Item/Year	2021	2022	2023
R&D expenses	Not applicable	Not applicable	Not applicable
Operating revenue (undisclosed financial forecast of the Company)	Not applicable	Not applicable	Not applicable
The share of R&D expenses to operating revenue	7% to 10%	7% to 10%	7% to 10%

Major R&D Projects in the Future

Latest Annual Project	Current Progress	R&D Expenses Which Should Be Invested for the Next Two Years	Time of Mass Production	Key Success Factors for Future R&D
14nm process technology	UMC finished its 14nm FinFET process platform development. Customer product yield reach 90%, passed customer product HTOL qualification and entered the mass production stage.	NTD 300 million	2020	• Customer product design verification and yield reached mass production levels and performance meets product design targets.
22nm process technology	For 22nm ultra-low power/ultra-low leakage technology development, pilot production of customer products has been completed. In Q4, 2020, the mass production milestone of customer DTV chips has been reached. Product optimization is continued and has been expanded to automotive electronics applications.	NTD 600 million	2021	• Customer circuit design verification and product yield qualification to meet mass production standard.
28nm Image Signal Processor technology	According to the timeline of the 28HPC ^{U+} image signal processor process development and verification were completed, and the mass production milestone was reached in 2020. Low-power high-pixel image signal development is proceeding as planned.	NTD 200 million	2021	• Customer circuit design verification and product yield qualification for mass production.
Embedded magneto-resistive memory	Relevant process development and verification should be conducted according to the development project schedule for embedded magneto-resistive memory.	NTD 700 million	2021	• Customer circuit design verification and product yield qualification to meet mass production standard.

Risk Management and Evaluation (Continue)

Latest Annual Project	Current Progress	R&D Expenses Which Should Be Invested for the Next Two Years	Time of Mass Production	Key Success Factors for Future R&D
Special technology R&D	Development and verification of 90/55/40/28/22nm specialty technology platform (including HV, CIS, eFlash, RFSOI, etc.)	NTD 2.7 billion	2022	<ul style="list-style-type: none"> Cooperating with customers to create a win-win situation. Completing IP verification on time. Quality verification is in compliance with customer requirements.
Wafer-on-wafer hybrid bonding	Development and verification of wafer-on-wafer hybrid bonding	NTD 200 million	2023	<ul style="list-style-type: none"> Cooperating with customers to create a win-win situation. Customer circuit design verification.

Note: The R&D expenses for the next three years will account for around 60% to 75% of the total annual R&D expenses.

In 2020, UMC has been constantly strengthening its independent R&D capabilities and fabrication; in the future, UMC will continue to be dedicated to the R&D of logic and specialty processes. The Company will adhere to its R&D strategy to establish independent R&D capabilities and will work with important partners, such as IDMs and fables, to develop key process technologies through technology licensing. UMC will also work with suppliers of photomask, packaging, equipment, material, and EDA to speed up the market launch schedule in order to fulfill the Company’s promise to provide customers with R&D of key processes.

In terms of independent R&D capabilities, UMC’s focus is on recruitment and cultivation of R&D talent in order to build an outstanding R&D team. The 12-inch R&D production line will continue to be expanded in the R&D Center located in Southern Taiwan Science Park with sufficient funds for enriching the overall R&D resources. In terms of 14nm process technology, UMC finished 14nm FFC platform development. Product yield reached 90% and performance met the product design target. At the same time, the 14FFC platform process also passed customer product HTOL (High Temperature Operating Life) reliability qualification and entered the mass production stage. With the successful rollout of 5G and Netcom applications, UMC 14FFC has also attracted customers to engage new product design-ins, with tape out scheduled in 2021. UMC’s R&D team will continue to optimize 14nm to take full advantage of the performance, power consumption, and gate density of 14nm FinFET in order to drive next generation Internet, AI, and consumer product applications.

The development of a 22nm ultra-low power/ultra-low leakage shrink process technology can be provided as a planar process technology solution with lower cost and better cost efficiency for customers. UMC is offering a 22ULP (ultra Low Power) version that has compatible design rules and the same mask count as the foundry’s 28nm technology, and also a 22ULL (ultra Low Leakage) version. UMC 22ULP and 22ULL form a super set to support a voltage domain from 1.0V to 0.6V, allowing customers to enjoy the benefits of both technologies on system-on-chip (SoC) designs. The 22nm platform is supported by foundation IP and is ideal for a wide variety of semiconductor applications including consumer ICs for set top box, digital TV, surveillance, power or leakage sensitive IoT chips (with Bluetooth or WiFi) and wearable products that require longer battery life. UMC’s 22nm process has been introduced to customers and, in Q4, 2020, has reached the milestone of mass production of digital TV (DTV) chips for customers. There are further plans to continue optimizing the process and expand the application

range of 22nm process products. In 2021, it is expected that more than ten customers will apply this platform technology for pilot production of Internet of Things (IoT), consumer electronics, industrial applications, and wearable (Mobile) products.

UMC’s 28nm high-performance process utilizes high-k/metal gate stack technology. The 28nm high-performance computing process (28HPC^{U+}) entered mass production in 2020 for image signal processor (ISP) products. The 28HPC^{U+} millimeter wave (mmWave) process covers high-performance and low-power technology platforms. The verification of the millimeter wave chip design process has been completed. UMC further extends its SPICE model coverage to 110GHz for mmWave in order to serve mobile phone, automotive/industrial radar and 5G FWA/CPE applications.

For the embedded magneto-resistive memory, this year’s scheduled development milestone was completed with high test-chip yield, and the Company provided the embedded MRAM macro IP for potential customers on its 22ULL platform.

For specialty technologies, UMC has launched the development of “More than Moore” processes and successfully provided comprehensive solutions such as ultra-low power platform (ULP), CMOS image sensor (CIS), MEMS, eFlash, embedded high voltage (eHV), power management IC (PMIC), and RFSOI.

In order to control the technology and development schedule to fulfill the promise of customer market launch, UMC will continue with its independent R&D strategy, adhere to a customer-first philosophy and integrate external R&D resources. The Company will also accelerate R&D, expand production capacity and enhance its revenue mix of key processes so that higher profits can be created in order to respond to the challenges resulting from constant technology evolution.

The Impacts of Interest Rates, Foreign Exchange Rates and Inflation on Corporate Profitability and Future Countermeasures

Interest Rate Fluctuation

The bank loans of the Company are floating rate debts. Therefore, changes in market interest rates will result in fluctuations in future cash flows. Based on bank loans as of December 31, 2020, if the interest rate increases/decreases by 10 basis points, the Company’s net profit for 2020 will decrease/increase by NTD 44,123 thousand. In order to reduce interest rate risk, the Company continues to monitor changes in market

Risk Management and Evaluation (Continue)

interest rates. Besides bank loans, the Company also utilizes various financing instruments. To support operating needs, the Company will take advantage of long-term debts with favorable fixed rates depending on market conditions.

Foreign Exchange Rate Fluctuation

The Company's exposure to the risk of changes in foreign exchange rates relates primarily to the Company's operating activities (when revenue or expense is denominated in a different currency from the Company's functional currency) and the Company's net investments in foreign subsidiaries. Based on the assets and liabilities of risk-avoiding management denominated in foreign currencies as of December 31, 2020, when the NT dollar strengthens/weakens by 10 percent against the US dollar, the Company's net profit for 2020 will decrease/increase by NTD 1,335,914 thousand. On the other hand, when the Chinese Yuan strengthens/weakens by 10 percent against the US dollar, the Company's net profit for 2020 will increase/decrease by NTD 1,625,241 thousand. When the Japanese Yuan strengthens/weakens by 10 percent against the US dollar, the Company's net profit for 2020 will increase/decrease by NTD 472,837 thousand.

The Company applies natural hedges on the foreign currency risk arising from purchases or sales denominated in foreign currencies, which means balancing the assets and liabilities denominated in foreign currencies to reduce the impact from fluctuation in foreign exchange rates. The Company may use derivatives, such as currency forward contracts, to partially hedge foreign currency risks associated with certain highly probable forecast transactions. These hedges will offset only a portion of, but do not eliminate, the financial impact from changes in foreign exchange rates. Furthermore, as net investments in foreign subsidiaries are for strategic purposes, they are not hedged by the Company. The Company continues to monitor the changes in foreign exchange rates in order to respond promptly to any significant fluctuation.

Inflation

The inflation status in 2020: Due to the impact of the COVID-19 in 2020, the price of international crude oil and raw materials fell, causing Taiwan's 2020 annual growth rate based on consumer price index (CPI) to fall below that of 2019; however the average consumer price index (CPI) in Taiwan was 102.31%, indicating that the overall consumer price is stable, with no deflation.

Policies for High-Risk and Highly Leveraged Investments, Lending, Endorsements, Guarantees for Other Parties, and Financial Derivatives Transactions, Main Reasons for Profit and Loss, and Future Countermeasures

The Company has not engaged in any transaction of high-risk or highly leveraged investments. Any financial derivatives transaction is to enhance the Company's operating performance and reduce operating and financial risks.

The Company has established "Loan Procedure," "Endorsements and Guarantees Procedure," and "Financial Derivatives Transaction Procedure" in compliance with the relevant rules and regulations issued by Financial Supervisory Commission. These internal procedures serve

as the basis for the Company to enter into transactions mentioned above. The Company has announced and reported these transactions, and also established a registration book in order to review these transactions regularly. If necessary, measures will be taken to control financial risks.

Impact and Corresponding Measures of Major Domestic and International Policy and Legal Changes on UMC's Finances and Business

UMC complies with national policies and laws. The Company's relevant divisions keep abreast of major policy and legal changes at all times. UMC adjusts its internal systems and business activities accordingly to ensure the smooth operation of the Company.

Impact on the Company's Financial Results and Corresponding Contingency Plans in Response to Changes in Technology and the Industry

The Company places significant importance on the dynamics of the semiconductor industry and continues to invest and develop semiconductor manufacturing process technology and know-how. In order to accelerate the development of logic and specialty technologies, optimize transistor performance, reduce power consumption, and continuously enhance our technical advantages, UMC invested a total of NTD 12.9 billion in research and development in 2020. At the same time, the Company is also actively working with external academic and government institutions to develop new process technologies for next generation product applications to diversify the Company's process technology offerings. The Company invested approximately USD 1 billion in capital expenditure during 2020. Looking into 2021, UMC will continue to appropriately invest into advanced technology node capacity, optimize capacity to enhance product mix and penetrate emerging applications. The Company believes that these efforts will create higher customer adoption of our logic and specialty technologies and expand UMC's market share to fuel growth. UMC will strive to enhance its operations and preserve the best interests of its shareholders.

The Impact of Corporate Image Change on Corporate Crisis Management and Response Measures

The Company's business philosophy is based on the Company's sustainable operation and long-term partnership with customers and social groups. The Company regularly holds shareholders' meetings and legal person briefings to increase financial transparency. The Company also actively participates in community and public welfare activities, and effectively fulfills its responsibility as a member of society. For a variety of different emergencies, there are special personnel responsible for planning and responding to minimize the uncertainty of business operations.

Risk Management and Evaluation (Continue)**Expected Benefits, Possible Risks and Response Measures for Mergers and Acquisitions**

With UMC's customers being located all over the world and given the Company's business philosophy of continuously improving its service quality to its customers, UMC understands the importance of satisfying customer needs and providing local services. At the same time, UMC also recognizes that with expansion through mergers and acquisitions, the Company can take advantage of increased economies of scale and operational efficiency. Based on this concept, UMC's Board of Directors approved the acquisition of the entire share capital of Mie Fujitsu Semiconductor Limited in June, 2018. The transaction was completed on October 1, 2019 and the acquired company was renamed as UNITED SEMICONDUCTOR JAPAN CO., LTD. upon completion of the acquisition. The acquired company is UMC's production base in Japan for 12-inch wafer services. In addition, UMC will also continue to invest in United Semiconductor (Xiamen) Co., Ltd. to provide 12-inch wafer services in China. UMC's global operational capabilities can be strengthened, and customers are given more competitive foundry solutions. Moreover, UMC's overall value can be increased and shareholder interests can be enhanced.

The main possible risk of cross-border merger and acquisition involves integration and compliance with the regulations of various countries, and whether the production synergy following mergers and acquisitions can meet expectations. If, for some reason, the M&A cannot be successfully completed or is unable to achieve the operational synergy target, it may affect the company's overall operating performance and even the company's long-term growth strategy.

UMC established a dedicated organization to execute M&A related activities, with a view of successfully completing equity purchases and M&A and taking advantage of operational synergies. At the same time, the Company also makes plans for future sustainable business strategies, and seeks the best interests of all shareholders as the direction of continuous efforts. Therefore, in terms of the integration and compliance of laws and regulations, UMC strives to meet the requirements of the regulators to handle equity purchases or M&A plans. In addition to careful planning and consultation in advance, the Company also consults about the merger mechanism with professionals from the respective countries; in terms of operational efficiency, the Company pays attention to cross-national cultural differences and sets up a communication channel at the beginning to establish full trust of the employees and customers of the acquisition target; reconciles the operation process and calibrates the quality management system to smoothly port new processes and new products; plans an expert team to promote benchmarking and introduces best practices to maximize overall operating efficiency.

Risk of Excess Capacity from Fluctuating Economic Conditions

The Company increases its production capabilities through fab expansion in order to accommodate more customer orders, thus

providing the means to increase revenue, profits and market share. When production capacity reaches economies of scale, manufacturing costs can be dramatically reduced. However, the significant potential for fluctuations in the semiconductor industry economic cycle creates financial risk, as any excess capacity still must be accounted for under depreciation of plants and equipment during demand softening caused by economic conditions. This risk would be considered a burden to the Company.

The Company's capacity expansion is under deliberate capital expenditure plans, which focus on satisfying customer needs while optimizing capital utilization. Disciplined capital expenditure can help to develop a healthy industry environment.

The Company has set forth the Capital Budget Committee from 2013, which comprises of members from the Company's Independent directors and non-executive directors. The Committee's goal includes review of the Company's capital expenditure budget, with the intent to strengthen long-term corporate strategy, financial planning and business performance.

Risk and Response Measures of Procurement Concentration

Risk of material shortage: for example, insufficient production capacity, accident in the factory, or natural disaster could result in material shortage.

Risk avoidance approach: currently UMC adopts a supplier self-management mode, in that these materials are stored in the Company's and suppliers' warehouses near UMC fabs. The safety inventory level is increased to meet emergency demand and to shorten the emergency response time in order to effectively reduce material shortage risk, and the Company's operation regulations are formulated according to the four subjects of "Risk Assessment Operation," "Operational Impact Analysis Operation," "Accident Response and Operation Sustainability Plan" and "Emergency Material Procurement Operation."

In addition, UMC has established alternative suppliers and regularly implements evaluations of supplier capabilities, flexibilities and natural disaster risk mechanisms that correspond to the production site. Currently, there are no high risk incidents. In case of emergency, the emergency response mechanism will be activated, and it will be managed according to the "Accident Response and Operation Sustainability Plan" and "Emergency Material Procurement Operation."

Risks of Sales Concentration and Response Measures

UMC has established long-term steady cooperation with multiple world-class customers, and the long-term sustained growth of the Company can be ensured by combining the competitive edges of UMC and these customers. In 2020, the operating revenues of UMC's top 10 customers accounted for approximately 53.7% of UMC's operating revenues. UMC will continue to closely cooperate with customers who require advanced and specialty processes, and provide customized solutions for specific products and applications. UMC will continue to provide comprehensive

Risk Management and Evaluation (Continue)

customer oriented pure-play wafer foundry solutions in order to expand its customer base and improve product mix. The Company will further enhance the flexibility of production capacity allocation to reduce the impact of periodic demand fluctuations with the goal of mitigating risk.

Risk of Change of Control and Stock Price Fluctuation from Large Scale Transfer of Shares

If the Company's directors or major shareholders holding more than 10% of issued and outstanding shares transfer a significant portion of their shareholding in the Company, then a change of control may occur. Furthermore, such transfer may give rise to investors' concerns on the operation of the Company and may cause the market price of the Company's shares to fluctuate.

The share withholding status of the Company's directors and managers have been reported based on official regulations and laws. Meanwhile, there has been no significant share transfer activity.

Risk of the Company Losing One or More Key Personnel Without Adequate Replacement Due to any Change of Company Control

UMC's future success depends to a large extent on the continued service of the Company's chairman and key executive officers. If the chairman or key executive officers leave their positions as a result of a change in Company control, and qualified replacement personnel cannot be found and integrated in a short period of time, operations may be adversely affected.

The Company's management focuses its operations with the intent to maximize value for its shareholders, thus gaining their trust and recognition. If there were a replacement of management, the succeeding personnel would have to recognize corporate culture, be qualified to assume professional duties, and be able to execute the Company's policy.

Litigation and Non-Litigation Incidents

On August 31, 2017, the Taichung District Prosecutors Office indicted UMC based on the Trade Secret Act of R.O.C., alleging that employees of UMC misappropriated the trade secrets of MICRON TECHNOLOGY, INC. ("MICRON"). On June 12, 2020, an adverse ruling issued by the District Court of Taichung in a suit alleged that UMC, two of its current employees and a former employee engaged in the misappropriation of trade secrets. The Company does not expect material financial impact resulting from this claim. UMC appealed against the sentence.

On December 5, 2017, MICRON filed a civil action with similar cause against UMC with the United States District Court, Northern District of California. MICRON claimed entitlement to the actual damages, treble damages and relevant fees and requested the court to issue an order that enjoins UMC from using its trade secrets in question. UMC has appointed counsels to prepare answers against these charges. Currently the civil complaint has been stayed by the court.

On January 12, 2018, UMC filed three patent infringement actions with the Fuzhou Intermediate People's Court against, among others, MICRON (XI'AN) CO., LTD. and MICRON (SHANGHAI) TRADING CO., LTD., requesting the court to order the defendants to stop manufacturing, processing, importing, selling, and committing to sell the products deploying the infringing patents in questions, and also to destroy all inventories and related molds and tools. On July 3, 2018, the Fuzhou Intermediate People's Court granted preliminary injunction against the aforementioned two defendants, holding that the two defendants must immediately cease to manufacture, sell, and import products that infringe the patent rights of UMC. The court approved withdrawal of one of the patent infringement actions on our motion while the other two actions are still on trial.

On November 1, 2018, the Department of Justice of the United States ("DOJ") unsealed an indictment against UMC, FUJIAN JINHUA INTEGRATED CIRCUIT CO., LTD. ("JINHUA"), and three individuals, including one current employee and two former employees of UMC, alleging that UMC and others conspired to steal trade secrets of MICRON, and used that information to develop technology that was subsequently transferred to JINHUA. On the same day, the DOJ filed a civil complaint enjoining the aforementioned defendants from exporting to the United States any products containing DRAM manufactured by UMC or JINHUA and preventing the defendants from transferring the trade secrets to anyone else. Besides, UMC has suspended the joint technology development activities with JINHUA. With respect to the criminal proceedings, on October 22, 2020, UMC filed a sentencing memorandum with the court, proposing to plead guilty to a lesser charge and to pay a fine of US\$60 million. On October 29, 2020, the court approved the above-mentioned sentencing memorandum submitted by UMC. The DOJ has dismissed its corresponding civil complaint. UMC has recorded the fine in non-operating other losses.

On March 14, 2019, a putative class action styled Meyer v. United Microelectronics Corporation and several executives, was filed under Securities Exchange Act of 1934 and Rule 10b-5 in the United States District Court for the Southern District of New York. The court appointed a lead plaintiff and approved a lead plaintiff counsel on May 23, 2019. On September 27, 2019, UMC received the service of plaintiffs' amended complaint and appointed counsels to prepare the relevant procedures. Currently the mediation process has been completed and is now under trial. The Company does not expect material financial impact resulting from this claim.

Risks Relevant to Intellectual Property

UMC values technology development and respects intellectual property rights, hence UMC develops independently to acquire intellectual property rights actively and devotes itself to protecting its and its business partners' intellectual property rights. Although UMC dedicates itself to enforcing and protecting intellectual property rights, it cannot completely prevent its intellectual property rights which strongly related to UMC's business, such as process, technology, software, trade secrets, or know-how from being infringed or misused by third parties. In addition, responsibilities for some of the infringements of intellectual property rights are strict liability and require no finding of mens rea or intent, so when UMC independently develops the process, technology, software, trade secrets or know-how required to engage in business, it may infringe on third parties' intellectual property rights unknowingly.

Risk Management and Evaluation (Continue)

Therefore, UMC may need to obtain technology or patent licenses from third parties on reasonable terms. However, if UMC cannot obtain the technology or licenses on reasonable terms, it may be accused of intellectual property infringement by third parties or even receive an injunction granted by the court on third parties' motion for injunctive relief, thereby jeopardizing UMC's abilities to perform business contracts and eventually leading to breach of contracts.

UMC's ability to compete also depends on its ability to operate without infringing on third parties' intellectual proprietary rights. As is the case for many companies in the semiconductor industry, UMC from time to time receives letters from third parties asserting and alleging infringement of some intellectual property rights of their technology. Due to the rising of active Non-Practicing Entity (NPE), UMC expects to receive similar letters in the future. Irrespective of the validity or the successful assertion of such claims, UMC could incur significant costs and management resources for defending these claims, which in turn could seriously impair UMC's business and operation.

In order to minimize the liabilities arising from third parties' claims alleging UMC's manufacturing of semiconductor devices or designs of UMC's customers' end products infringe on third parties' intellectual property rights, generally, UMC accepts orders only from companies with satisfactory reputation and for products without potential infringement risks. Furthermore, UMC also obtains indemnification rights from customers and equipment vendors to hold UMC harmless from any damages resulting from any suits or proceedings brought against UMC alleging UMC infringes third parties' intellectual property rights by manufacturing products for customers or using equipment supplied by vendors.

Risk of Climate Change

The Risk of Climate Change may Negatively Affect UMC's Business Operation

UMC actively focuses on the business operational concern of climate change. The Company has developed the UMC Climate Change Risk Assessment methodology based on the Fifth Assessment Report (AR5), which is published by the Intergovernmental Panel on Climate Change (IPCC), and the government's downscaling scenario projection for identifying potential physical hazards under a climate change situation, and ISO14090: Adaptation to Climate Change and the assessment procedure in the UK Climate Impact Programme (UKCIP). Adaptation and mitigation measures are developed in response to the identified climate change risk.

The inevitable global carbon risk resulting from climate change will not only bring rising manufacturing and transportation costs due to increased prices for petroleum and electricity, but will also directly impact the economy and the operation of enterprises from the perspectives of energy tax, carbon tax, border carbon tariff, and stringent environmental laws and regulations, and lead to additional investment costs. In addition, UMC has also actively implemented measures in response to mitigate the impact caused by climate change. For example, to reduce the emissions from fluorinated greenhouse gases used in wafer foundries, UMC was the first in the industry to complete a two-phase fluorinated greenhouse gases replacement plan for all its fabs (by replacing C₂F₆ with C₃F₈ and C₃F₈ with C₄F₈) in order to greatly reduce greenhouse

gas emission and the impact of global warming. In the meantime, UMC supported the EPA early reduction project and acquired a carbon reduction allowance, thus successfully turning risk into competitiveness. Facing the issues of global climate change and the management of energy and greenhouse gases, in recent years UMC has been actively drafting environmental protection objectives through various stages and aspects and developed specific implementation plans for gradual promotion.

Green Energy Policy may Cause Investment Pressure and Unstable Power Supply Risks for Companies

In response to global climate change mitigation and adjustment actions, the Taiwan government has announced its 2025 renewable energy goal and asked enterprises that when their contract capacity with Taipower company reaches 5,000 kW, 10% of the contract capacity must come from renewable energy, such as solar energy, energy storage, renewable energy voucher, or face a penalty. To adapt to the operational impact resulting from regulatory compliance, UMC proactively plans different solutions, such as installing renewable energy generating equipment or energy storage equipment, or the purchase of vouchers. Estimated annual amortization expense from increased operating costs or capital expenditures will not exceed NTD 200 million. Also, even though the percentage of installed capacity for renewable energy is gradually growing according to Taipower's website, there is a considerable difference across 27GW targets. If the Taipower generators break down and the renewable energy supplies are unstable during peak power consumption periods, there may be a risk of power disruption due to insufficient backup capacity. Therefore, UMC has provided UPS for important production equipment, and plans to replace the existing lead-acid batteries UPS with lithium ion batteries year by year to improve supply stability. In addition, UMC has also established a diesel generator safety inventory control mechanism... etc. to strengthen power supply resilience.

Disaster Risk Management

As a leader in the semiconductor fabrication industry, UMC is fully aware of the impacts of natural disasters and man-made accidents on production and operation. Therefore, UMC has always faced disaster risk management with an active attitude of prevention management, and pursues the highest safety standards within the semiconductor industry through stringent risk engineering control and implementation management of safety regulations and standards.

Fire Safety

UMC has applied international standards, such as Factory Mutual (FM) Insurance Company, Underwriters Laboratories Inc. (UL), National Fire Protection Association (NFPA), and Semiconductor Equipment and Materials International (SEMI) to building structure, equipment, and risk engineering control and assessment, and the company regulations have been formulated to serve as definite requirements. UMC is also the only company in the semiconductor industry with its own fire brigade. In addition to being equipped with professional fire engines and fire rescue equipment, the fire brigade normally conducts professional training to teach emergency response capabilities to employees, while having the ability to respond onsite in case of disaster.

Risk Management and Evaluation (Continue)

Protection Against Natural Disaster

UMC has actively planned and established a complete and sound disaster risk management response procedure. It has worked with world-renowned structure consultation companies specialized in responding to earthquake disaster, such as EQE (EQE International Inc.) and JENSEN HUGHES to include seismic safety of buildings, factory facilities, pipelines, and production machines into the design criteria at the preliminary stage of fab construction. There are plans for continuous improvement of older fabs built prior to 1999. In February 2016, an earthquake of Richter scale magnitude 6.6 took place in southern Taiwan, registering close to 6 at UMC's Fab 12A in Tainan Science Park. However, hardware loss was rather moderate compared to other companies in the industry, which was an indication of the effectiveness of UMC's seismic design. In addition, UMC has continued to introduce new seismic protection technologies, including anti-earthquake damper for buildings and seismic isolation platforms for reticle stocker and furnace and the establishment of an onsite earthquake early warning system for further enhancement of personal safety and reduction of risks associated with losses of machine and equipment due to earthquake.

Responses to Extreme Weather

UMC has always been concerned about the possible impacts from extreme weather. The Company has completed flood potential simulations for fabs in Taiwan since 2014, and conducted hardware improvement to strengthen the flood control capacity of Fab 12A. UMC was also the first in this industry to develop an early warning system to detect water shortage that is integrated with quarterly long-term weather forecast data to provide the prediction of water conditions in the coming three months so that water saving measures can be conducted in advance. Moreover, Taiwan is facing the most serious water shortage condition in 56 years. To respond to the possibility of stricter water measures being imposed in the near future, UMC has prepared supplementary water resources by contracting with water trucks and sources, and will align with the reclaimed plant construction schedule by the Water Resources Agency, Ministry of Economic Affairs to use reclaimed water in the plant. The estimated additional cost for 20% water supply restriction will be about NTD 3 million/day.

Safety Protection of Process Equipment

Safety, Health, and Environmental Protection Standards of Semiconductor Manufacturing Equipment (SEMI S2) is the primary international standard for UMC to establish the mechanism for review of new machines and company regulations. The "UMC Process Equipment ESH Procurement Specifications" has been introduced at the procurement stage. The safety of machines can be under effective control with the machine specifications compliance review before machines are moved in and machine installation inspection after machines are moved in.

International Risk Rating (Triple-Star Rating System)

UMC introduced the Triple-Star Rating System in 1998, and the Company has since invited international insurance company AIG (American International Group) to conduct risk audits so that UMC could continuously enhance fab protection level in order to be in compliance

with international standards and to maintain the commitment level of Highly Protected Risk (HPR) for our customers and the insurance market. Aside from some items in older fabs, the ratings of all other fabs are maintained at the highest level.

Business Continuity Management (BCM)

UMC recognizes that pursuing the sustainable operation of its organization actually means providing strategic customers and important stakeholders with continuous services. Therefore, the highest mission of the Company is to provide customers with diversified, high quality, and uninterrupted wafer foundry services.

In 2013, UMC was the first in the industry to be granted the ISO22301 Business Continuity Management System Certificate issued by SGS Taiwan Ltd., for both its Hsinchu HQ and Fab 12A. In 2016, Fab 12i in Singapore was granted ISO22301 Business Continuity Management System Certificate after only its first evaluation. In 2019, Hsinchu HQ, Tainan Fab 12A, and Singapore Fab 12i passed the 3-year review cycle by BSI (British Standard Institution) to extend the validity of certification. Under such operation and maintenance mechanism, UMC will continue to review, refine, and ensure the maintenance and recovery of the highest operational objectives upon occurrence of disaster or impact in order to protect the rights and interests of customers and stakeholders.

Business Continuity Policies

- The highest purpose of the Company's sustainable operation and management is to provide customers with diversified, high quality, and uninterrupted wafer foundry services while continuously pursuing partnerships with its customers.
- UMC will implement the operation of the business continuity management organization and conduct business impact analysis and risk assessment when the business environment changes, so that sustainable operation strategies and objectives can be formulated and secure resources can be obtained for such implementation with continuous review and refinement.
- In case of disaster or impact, UMC will invest sufficient resources according to its business continuity strategies in order to maintain and restore optimal operations. The Company will keep good communications with, fight for and protect the rights and interests of its customers and stakeholders.

Enterprise Information Security Risk Management

Risk Management Organization

In 2018, UMC established the "Enterprise Risk Management Committee" to collaborate with key organizations in the Company's risk management and control to jointly examine and manage internal and external risks. In the same year, UMC established the "Corporate Security Division" responsible for the Company's information security and physical security planning and related audit matters, which works together with the "Information Technology Division" to further strengthen information security.

Risk Management and Evaluation (Continue)

Information Security Policy

UMC's information security policy is based on the guiding principle: "To establish Information Security Management rules in accordance to customer requirements, to reach a consensus that information security is everyone's responsibility through full awareness, to protect information Confidentiality, Integrity, Availability for the Company and Customer, and to provide a safe production environment to ensure sustainable operation of the Company's business." The major information security objectives are aimed at antivirus, anti-intrusion and anti-leakage through the building of multiple internal controls such as firewall, intrusion detection and antivirus systems to enhance the Company's ability to defend against external attacks. Also, with the support of top management and through regular education and training programs, security operation/awareness is tightly involved and seamlessly integrated into every employee's daily work.

Establish Enterprise Risk Management System

According to the Enterprise Risk Management Committee management procedure, UMC assesses the risk level of information security, takes response actions, and regularly reviews effectiveness.

UMC complies with multiple ISO certification standards as a means of achieving risk-oriented management and inspection purposes in the areas of quality, environment, water resources, carbon footprint, green energy, etc. Related information security certifications include ISO15408, ISO22301 and ISO27001. The Company has also established corresponding risk management committees to promote standardization processes and reduce the risk to business operations. Please refer to the Company website for related certification information. https://www.umc.com/en/Download/awards_and_certificates

Assessment of Information Security and Cyber Risks

UMC puts particular emphasis on preventing information security and cyber risks, and builds a complete multi-layer defense mechanism including firewall, intrusion detection, antivirus system, vulnerability scanning, patch management procedure and penetration testing, etc. In 2019, UMC also leveraged an international professional security company's resources to help on inspecting the robustness of overall security as a trusted third party verifier and a basis for further improvement. The summary of the annual information security assessment is as follows: "Overall, UMC has implemented an information security management system. According to this system and control measures, conventional malicious programs such as attacks by viruses, Trojans, worms and external hackers will not easily damage UMC's information system."

Information Security Management System

UMC is listed on NYSE and complies with the Sarbanes-Oxley Act (SOX 404) for internal key financial processes. The Company intends to strengthen information security by introducing ISO27001 information security management system certification, so that information systems can be operated under standard management procedures to reduce security risk and production anomalies that may be caused by human error. Continuous improvement of PDCA is then carried out through annual recertification.

In 2014, a cross-division security committee was established. Based on the need to produce secure products like smart card ICs, the Company decided to introduce ISO15408 (CC, Common Criteria) certification. The certification is specifically designed for secure production procedures not only in data receiving, processing and destroying but also higher physical access control request for securing entire production line purposes. Continuous improvement of PDCA is then carried out through biennial recertification.

The Arrangement of the Security Insurance

In view of recent reports about data leakage, virus infection and hacking events in Taiwan and the world, together with the ransomware incident of a peer semiconductor manufacturer's information system in August 2018 which caused billions of NT dollars in operational disruption (BI, Business Interruption), the worldwide security threat has been drastically intensified. There is no guarantee that enterprises will not become the target of attack even if they already have good security protection in place. UMC's strategy is to adopt cyber security insurance as a new option for partly transferring and mitigating the risk. This insurance has been in effect since Jan. 2019 with a retroactive option that can trace back stealth threats existing in the enterprise before the effective implementation date. Initial insurance amount is set to be USD 10 million and covers all UMC fabs in Taiwan and Singapore. In the future, they will be reviewed annually to protect the Company from potential losses in the event of a cyber attack.

The Impact of Major Security Incidents and Corresponding Response Measures

UMC had a major WannaCry ransomware incident in 2016, causing 42 Servers/PCs/NBs used in the OA area to be infected and needing to be re-built. Fortunately, due to early detection and proper handling, it did not spread to production line computers. This is considered a relatively serious virus incident within recent years. In addition to immediately upgrading to a new version of antivirus software with behavior-based detection capability and implementing strict information device in/out management, the Company policy also requires that production line computers update critical patches to defend against such worm-type viruses that may attack system vulnerabilities. Another countermeasure is to set the Access Control List (ACL) in production line networks to grant necessary access between equipment tools, which can block viruses from spreading and limit them to a small extent of impact. After the virus incident in August 2018, SEMICON TAIWAN formed a task force that included UMC to co-study equipment information security standards and responsibly contribute as a local enterprise.

In short, the current security risks disclosed by UMC in this annual report should be supplemented with a famous quote from the information security industry: "There is no such thing as 100% security." While new attack techniques are constantly introduced, defense systems are faced with a zero-day attack limitation. Past defense achievements do not necessarily mean or guarantee that anomalies will not happen in the future.

Enterprises must keep pace with the times to face the ever-changing and growing information security threat. Information security has a long way to go and requires continuous improvement. UMC will uphold the values of "Customer-orientation, Integrity, Innovation, Accountability,

Risk Management and Evaluation (Continue)

Efficiency” as its corporate culture and well fulfill “due care/due diligence” management responsibilities to provide customers with a secure production environment to reduce operational risk and reward shareholders with the highest possible investment value.

Tension in Political or Economic Relations Between Major International Countries; the Potential Impact on the Investment and Operation of the Company and Corresponding Measures.

Internationally, due to political or economic tensions between major countries, national power has been exerted to penalize specific entities or even trigger a trade war. The main methods include raising tariffs, embargoes, policy interventions, government subsidies, etc., which may have an impact on the company's investment and operations. It also affects revenue, delivery, and goodwill. For example, a sharp increase in tariffs in importing countries may drive up end-market prices, thereby reducing consumer purchase demand and further reducing UMC's customer orders; The United States Export Control Act regulates that if those whose content originating from the United States exceeds a certain ratio, their products may not be exported to specific countries. This may affect UMC's direct or indirect supply to specific customers; restrictions on the export of high-tech materials may affect UMC's production, resulting in failure to deliver on time and damage to goodwill. UMC's countermeasures include:

1. Increasing the diversification of customers' region and product application. Besides cautiously facing existing business in North America and the Asia Pacific regions, UMC also aggressively expands its business from other regions such as Europe and Japan. In addition to the company's original business in server, automotive and industrial applications, UMC also has active efforts aimed at expanding its opportunities in 5G, IoT, AI, etc.
2. Monitoring and evaluating the impact of external changes (including global regulations, politics, economic conditions, etc.) on the Company's business (raw materials, customer demand, etc.) and taking necessary risk response measures. In practice, a raw material supply chain tracking mechanism is established, and the legal compliance response system is strengthened. Through a more accurate grasp of the country's component ratio of the raw materials, UMC can analyze the possible impacts and respond in a timely manner.

The Impact of Talent Retention and Training & Development on the Company's Operations and Corresponding Practices.

At UMC, employees are considered the most important asset and the foundation of sustainable operations. External labor market competition and the attractiveness of salary conditions have caused staff turnover, so the failure to effectively maintain and extend experience has potential risks to the company's operations.

Regarding talent retention and training & development practices, UMC provides a comprehensive learning environment for employees to improve the skills and expertise of their colleagues. The Company focuses on “talent attraction, cultivation, and retention” as the key goals of training & development, while continuously improving the quality and effectiveness of training, cultivating talent to meet the needs of the organization, and ensuring the continuation of experience. Meanwhile, UMC also pays attention to external market salary information and provides competitive salary and welfare conditions to achieve the Company's sustainable operation goals.

The Impact of Contagious Diseases on the Company's Operations and Countermeasures

Any outbreak of infectious diseases, such as coronavirus (COVID-19), Ebola, bird flu, swine flu, or severe acute respiratory syndrome (SARS), can affect staff attendance and even affect company operations. For example, the outbreak of the coronavirus pandemic since the end of 2019 is still spreading globally, adversely affecting the world's economic conditions and the stability of the supply chain. It is estimated that the epidemic will not be alleviated within a short time period. The impact of emergency control measures taken by governments to curb the spread of the epidemic will continue, which may expose UMC to relevant risks, including: unstable sales activities and customer orders, reduced plant operations and labor, international travel and communication difficulties, limiting transnational cooperation projects, etc. In addition, if any employee is suspected or diagnosed with an infectious disease, the company may need to quarantine these employees or close the relevant workplace to temporarily suspend some or all production operations.

The company pays attention to the potential risks of various contagious diseases and tracks their dynamic changes. UMC established its coronavirus epidemic control and response center in January 2020 to coordinate relevant information and resources usage, including:

1. Daily review for conditions of production impact, supply chain management, epidemic prevention strategies and action preparation, etc.
2. Defined clear stages of infectious disease disaster management and prepared response measures in advance according to the situation of each stage, and launched corresponding activities in accordance with epidemic development. For example: reduce human infection and production impact (for detailed related measures, please refer to UMC CSR report); increase buffer inventory, find and expedite the verification of second suppliers to reduce material shortages; reduce the operation impact of specific fabs by cross-plant products and order adjustment and transfer.

Up until February 2021, the epidemic has not had a significant impact on the Company's operations. At the same time, UMC has also noticed that the epidemic seems to have a medium to long-term impact on certain industrial environments, such as structural changes in market demand and the global supply chain. The Company will maintain a positive and cautious attitude and continue to pay close attention to and respond to the risks and opportunities associated with the pandemic.

Risk Management and Evaluation (Continue)

Other Significant Risks

None.

Note: The analysis and valuation of Risk Items shown above include the data during 2020 and as of the Annual Report Printing Date.

Other Necessary Supplements

None.

Social Responsibility

- 156 Description of Corporate Social Responsibility
- 158 About Social Charity
- 162 Environmental Protection, Safety and Health
Management Instructions

Description of Corporate Social Responsibility

To fulfill corporate social responsibility and facilitate economic, environmental and social progress for the purpose of achieving sustainable development, UMC has formulated and complies with its Corporate Social Responsibility Practice Principles.

Currently, through the Corporate Sustainability Committee, UMC keeps abreast of relevant domestic and international standards in corporate social responsibility and changes in the corporate environment. UMC regularly reviews and improves its corporate social responsibility practices, systems and management policies to improve the effectiveness of its corporate social responsibility implementations.

In 2020, UMC was awarded with multiple honors related to corporate social responsibility, including being listed as a FTSE4Good Emerging Index component and FTSE4Good TIP Taiwan ESG Index component, and earning the Taiwan Corporate Sustainability Report Award, Green Chemical Application and Innovation Award, Green Procurement Award, Occupational Safety and Health Award, and Enterprises Environmental Protection Award. Meanwhile, UMC has been listed as one of the Dow Jones Sustainability World Index for 13 consecutive years. DJSI is one of the most credible international corporate sustainability evaluation tools, so this is an indication that UMC's sustainability performance has been recognized by the international investor sector as a global leading enterprise.

Member of

Dow Jones Sustainability Indices

Powered by the S&P Global CSA



FTSE4Good
TIP Taiwan ESG Index



In addition to continuous dedication to this industry, the self-expectation of UMC is to become a green giant within the semiconductor industry. Energy saving and carbon reduction is a long-term undertaking, in which UMC is an advocator of low carbon innovation and provider of low carbon solutions as well as an implementer of low carbon actions. UMC established the Fluorinated Greenhouse Gases Reduction Work Group as early as 1999 in response to global warming, and it achieved its 2000 voluntary reduction goal outlined by Taiwan Semiconductor Industry Association ahead of schedule. On Earth Day (April 22) in 2000, UMC was the first in the industry to announce a "Climate Change Policy" and "UMC's Low Carbon Commitment" as the highest guidelines in response to climate change.

In 2013, UMC started an early reduction project for carbon reduction allowance approved by the EPA, which was based on the company's carbon reduction achievements for more than a decade. UMC completed the first carbon trade recognized by Taiwan's EPA in 2014, which can be regarded as an important milestone for the domestic carbon

trading market. The income from this carbon trade was used for the environmental protection fund. Meanwhile, the "UMC Eco-Echo Ecology Preservation Hope Project" was activated to work with The Society of Wilderness to promote the Sauter's frog habitat preservation action in Hsinchu, where UMC's HQ is located, as an effort for contributing to environmental sustainability. In 2016, UMC extended the spirit of this project and launched the UMC Eco Echo Award. It has collected outstanding projects and creative ideas for a friendly environment via the execution and selection of the Eco Echo Award in order to urge more people to join this environmental protection effort. By 2020, more and more enterprises were participating in the care for local Taiwan ecology; in terms of society, UMC also provides disadvantaged organizations with energy saving and carbon reduction services through its energy saving service team in the three aspects of energy conservation and safety counseling, technical information on energy resources and engineering improvement in order to fully utilize corporate resources in response to global warming.

UMC has also actively promoted clean production and green product management. In 2006, the Company was the first among all semiconductor makers in the world to complete third party verification audit of its Hazardous Substance Process Management (HSPM) system, and UMC became the first company in the world to acquire QC-080000 IECQ HSPM certification for all fabs. In 2009, it completed the first "product carbon footprint" verification of IC wafers according to the International Carbon Footprint Standard PAS2050. In 2010, UMC completed the "product water footprint" verification of IC wafers according to the Business Water Footprint Accounting criteria of the non-profit international organization "Water Footprint Network." As an important milestone for development of green production, these results can also provide complete, scientific, and reliable product information as the basis for self-review and continuous improvement. In 2017, UMC took the initiative to launch the Triple R Major League project. UMC expects to cooperate with suppliers to promote measures for energy and resource reuse, recycling and reducing to achieve green products with lower environmental impact. On the other hand, UMC has also established a supplier management strategy to strengthen the economic, social and environmental performance by implementing supplier sustainability assessments, on-site audits, and coaching improvements and tracking to create a positive influence and enhance sustainable competitiveness of the overall supply chain.

Furthermore, UMC referenced the nature of its businesses as well as the 5 key principles of AA1000 SES (Stakeholder Engagement Standard) to identify the major stakeholders and formulated a management system for the identification of and communication with various stakeholders. In accordance with the materiality principle, UMC conducts impact assessments of environmental, social and corporate governance issues related to the company's operations every year, and formulates corresponding improvement measures and plans. At the same time, the results were disclosed through the corporate social responsibility reports and company websites.

UMC's Corporate Social Responsibility Report issued in 2020 was composed by referring to the Global Reporting Initiative (GRI) Standards, and the content of this report was verified by a third party according to "Account Ability 1000 Assurance Standard." In the same year, the Corporate Social Responsibility Report published by UMC was awarded the Taiwan Corporate Sustainability Report Award for the

Description of Corporate Social Responsibility (Continue)

13th consecutive year. These honors and recognitions indicate that, after long-term dedication to corporate social responsibility, UMC’s actions, transparency and completeness of information disclosure have all reached the international level, such that it has become a global benchmark enterprise.

Structure of UMC's Corporate Social Responsibility Organization

UMC’s Corporate Sustainability Committee was established in April 2008. This is an important milestone of UMC’s implementation of social responsibility and direction towards the road to sustainability, and it also represent UMC’s focus on corporate social responsibility and resolution of promoting relevant measures. This committee is the highest level organization within UMC in charge of sustainable development and formulation of directions and objectives of corporate social responsibility for the entire company. The performance and objective achievement will be reviewed regularly by the chairman and committee members, and the representative of this committee will report to the board of directors annually on the effectiveness and plan of promotion, and important issues and responsive measures that stakeholders are concerned about.

There are seven sub-committees under the Corporate Sustainability Committee, which are Corporate Governance Committee, Customer Relationship Management Committee, Supplier Management Committee, Innovation Technology Committee, Human Rights and Social Participation Committee, Environment Committee, and Green Manufacturing Committee. Their functions are described below:

Corporate Governance Committee

Helps strengthen the function of the Board and shareholder equity, integrates related regulations and policies of relevant departments, and helps complete and implement the Company’s internal control system to ensure information transparency and disclosure, and compliance with regulations.

Customer Relationship Management Committee

Refines customer service and quality control, improves service quality and customer satisfaction, and protects customer interests and relevant trade secrets.

Supplier Management Committee

To establish a protective environment and emphasize the obligation to society, labor rights, security and health while pursuing the goal of a continuously evolving supply chain, this sub-committee develops long-term partnerships with vendors for quality, cost leadership, delivery, service/response, and sustainability.

Innovation Technology Committee

Promotes green product research and development and innovations, and leads in cutting-edge green technology.

Human Rights and Social Participation Committee

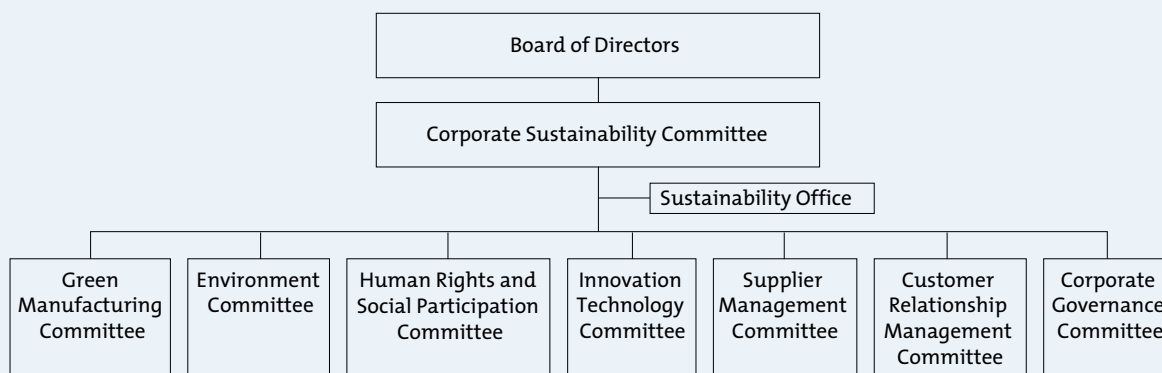
Responsible for protecting the basic rights of employees and promoting communication with outside communities and society. Integrates the UMC Science and Culture Foundation, and with a focus on education, arts, sports, public service and environmental protection, strives to promote technological research and development cooperation, long-term educational assistance, arts and sports activities and other social welfare events.

Environment Committee

Promotes company-wide environmental, safety and health, energy, water and greenhouse gas emission management to enhance sustainable competitiveness.

Green Manufacturing Committee

Promotes company-wide green processes, such as hazardous materials management and increases in resource productivity. The organizational structure of Corporate Sustainability Committee is as shown below:



About Social Charity

•UMC Science and Culture Foundation

Established in 1996, the UMC Science and Culture Foundation has been promoting social charity for many years. Currently, the focus is long-term educational assistance, and encouraging colleagues to serve as volunteers to participate in various public welfare activities. Summary of key implementations in 2020:

•Spreading the Seeds of Hope and Cultivate Future Competitiveness

During its 25th anniversary celebration in 2005, UMC launched the Spreading the Seeds of Hope Project, an educational program that provides after-school tutoring for children from disadvantaged families. It is hoped that through the long-term sponsorship and adoption of enterprises and calling on scientific and technological people to show love, students from disadvantaged families can receive better education and cultivate their future competitiveness, so as to escape the cycle of poverty. This project is funded by the foundation. Cooperative units in Hsinchu and Tainan provide venues as supplementary classrooms, hire college students as part-time supplementary teachers, and provide free tutoring for students who are economically disadvantaged and need to strengthen their schoolwork. For more than ten years, this program has not only been a lesson plan, but a public welfare platform that connects social volunteers and college students to serve with actions.

•Supporting Diverse Education Programs

In order to encourage young people to learn through different ways of thinking, the Foundation has long supported the Youth Performing Arts Alliance to guide high school students to understand society through drama creation.

In 2020, under the epidemic situation, there were still 30 teams participating in the drama festival activities. The love of drama was conveyed through online courses and live broadcasts. It was art education as well as citizenship and life education.

In addition, the long-term exclusively sponsored program “Whatever Makes Sense for Voice of IC Teacher Hung Lan,” discussions are based on brain science research and audience opinion on parent education, and the vast influence of media is used to jointly create smart living with the audience to exert the positive influence of the media.

In physical education, the foundation has long supported the Nantou Karate team led by coach Huang Taiji and Liao Delan to cultivate children from disadvantaged families in Taiwan to practice karate. Over the years, it has achieved two Asian Games gold medals and more than ten presidential education award winners. UMC’s 40th anniversary Sports Family Day specially invited the players to perform the opening act, which echoed the corporate activities, and also allowed colleagues to see the results of the players’ hard work.

Reading is another window of learning. The Foundation has long sponsored the Mandarin Daily newspaper education project. In 2020, it sponsored a total of 27 class reading projects in 18 elementary schools to provide students with broader reading resources. At the same time, it also links newspapers into the company to hold book fairs and newspaper reading promotion, so that colleagues are informed of another good media for parent-child learning.

Another long-term sponsorship plan is to donate a total of 110 school children to adopt a family, so that family functions will not be affected due to economic factors and children can have a more normal family education. In addition, colleagues are also linked to serve as letter-care volunteers to give care and encouragement to adopted children. One of

the simplest concepts of companionship, the program connects love and hope.

In 2020, the Foundation invested for the first time in the “Seeing Hometown” aerial photography project for rural school children. This project was initiated by Professor Su Wenyu from the Love of Self-Made Learning Association of the Republic of China. It is hoped that students from rural areas who are relatively lacking in educational resources will learn about their hometown, learn to use images to record hometown stories, and develop a deeper sense of identity with their hometown. The foundation mediated the long-term cultivation of Yanzhou Elementary School in Pingtung County to participate in the project, and used video works to tell stories about their hometown with 6 other primary and middle school teams at the results presentation.

- For more information on charity events, please refer to the UMC Science and Culture Foundation webpage.

•UMC LOHAS Education Foundation

“UMC LOHAS Education Foundation” was established in 2009, and has continued to promote national sports and social welfare over the years and has operated its own recreation center in the Hsinchu Science Park. At present, it focuses on providing a good sports environment for citizens and employees in the park, and assists in handling various activities in the park and the city government.

Summary of key implementation outcomes in 2020:

•Free Consultation for Health Promotion

Recreation center provides free exercise knowledge training on site or over the phone. Professionals in the gym teach how to use retraining equipment and help answer any questions about exercise. In addition, the recreation center provides body composition analysis. The machine can analyze body composition in a comprehensive manner, such as body fat rate, muscle mass, basal metabolic rate, etc. Professionals introduce the meaning of the measured data and exercise suggestions to users, and establish correct exercise information. Through the stable operation of the sports hall, a safe and modern sports environment is provided for citizens and park employees, and a healthy sports concept is introduced.

•Sponsoring the Activities of the Hsinchu City Education Office

The Education Department of Hsinchu City Government organizes International Parent-Child Day and Grandchildren’s Day activities, and UMC LOHAS Education Foundation assists in the promotion of local educational activities. In 2020, UMC LOHAS Education Foundation sponsored 1,000 gifts and provided gifts for citizens after they passed the game. UMC supported the management of public welfare activities, providing resources and achieving social resource sharing and integrating resources to maximize their effectiveness.

•Sponsoring the Park Cup Sports Events

Combined with the Science Park Bureau, government and schools to handle the Park Cup of table tennis games and badminton games, the UMC LOHAS Education Foundation sponsors free venues and admission fees to promote the sports habits of the employees in the Hsinchu Science Park, promote a healthy workplace, and activate the atmosphere of the Hsinchu Science Park through passionate sports competitions.

About Social Charity (Continue)

•Handling Health Promotion Public Welfare Education Lectures

UMC LOHAS Education Foundation handles sports experience courses for sports leisure and health promotion, and invites employees and citizens of the park to participate for free. During the activity, the coach leads the trainees in basic core training exercises to achieve muscle relaxation, body balance, and lower body fat while promoting health through sports promotion and encouraging citizens, community residents and employees in the park to develop the habit of regular exercise, and through healthy body formation and positive emotional training, to promote physical, mental and spiritual balance, and effectively improve people's quality of life.

•Promoting UMC Volunteer Culture

At present, a large group of eager UMC volunteers has spontaneously formed the Candlelight Club for community services. The volunteer climate has gradually expanded to various clubs. UMC is passionate about public charity. The Company recognizes the limited resources of organizations for the disadvantaged and their great need for energy conservation and carbon reduction. Therefore, in 2015, UMC began forming the Energy Conservation Service Team, which was officially launched in 2016. The volunteer team comprises of experts in energy conservation, water conservation, air conditioning, lighting and fire prevention, and focuses on prioritizing the disadvantaged, energy conservation and safety, feedback and improvement. Based on these positions, the volunteer team provides organizations for disadvantaged groups with energy and safety diagnostics, and funding for immediate improvement projects.

Charity services provided by clubs and the Energy Conservation Service Team in 2020:

Clubs	Services
Candlelight Club	Charity bazaars (Holiday Bazaar, St. Joseph Social Welfare Foundation, Eden Social Welfare Foundation) Fundraisers (Mennonite Social Welfare Foundation, St. Joseph Social Welfare Foundation, Children Are Us Foundation)
Ukelele Club	Teaching (Nan-he Elementary School, Fu-sing Elementary School and Xin-xing Elementary School in Hsinchu County) Free performances (Hsinchu National Taxation Bureau Awards Ceremony, Hsinchu City Mid-Autumn Festival in Jiangong Community, Rebirth Etude Second-hand Charity Sale)
UMC Drum Club	Charity performances (St. Joseph Social Welfare Foundation Garden Party, Saint- Hsin after-school)
Music Fellow Club	Free performances (L'arc Hotel Second-hand Market Activities, STSP Bureau Love-month Activity, Fab 12A Christmas Activities)
Energy Conservation Service Team	Taoyuan Bade Disabled Nursing Home, Catholic Missionary Sisters of Mary and Francis-Miracle Home, St. Raphael Opportunity Center, Bethlehem Foundation, St. Joseph Social Welfare Foundation.

•Semiconductor programs for cultivating Taiwan's high-tech talent

With the mission of cultivating Taiwan's high-tech talent, UMC not only invests in developing and improving the company's existing talent, but also in cultivating seed talent for Taiwan's semiconductor technology through early contact. The semiconductor process practicum courses in National Kaohsiung University of Science and Technology, National Central University and Chung Yuan Christian University are taught by experts from UMC for early cultivation of semiconductor seed talent at the university stage so that young students can acquire deeper semiconductor knowledge and skills in their studies. Furthermore, they can better dovetail into their subsequent workplace development and actively integrate their knowledge into their career, thereby achieving talent cultivation for Taiwan's semiconductor industry.

In addition, UMC collaborates with National Cheng Kung University, National Tsing Hua University, National Chiao Tung University and National Sun Yat-sen University on advanced technology R&D and projects. The research scope includes artificial intelligence algorithms, micro-sensors and actuators, machine learning algorithms, deep learning and wafer defect detection, etc., to achieve the most effective industry-university cooperation for integrating theory and practice.

Summary of key implementation outcomes in 2020:

	Key Items	Outcome
Industry-University Collaboration	National Kaohsiung University of Science and Technology, National Central University, Chung Yuan Christian University industry-university courses on semiconductors	Offered semiconductor processing practicum courses in 2020. About 260 students enrolled.
	Nano Generation course at National Cheng Kung University	Offered an introductory course on Semiconductor Processing in the Nano Generation at National Cheng Kung University in 2020. About 243 students enrolled.
Campus Cultivation	Domestic and Overseas Summer Internship	Provide a specific number of internship opportunities each summer vacation. In 2020, a total of 16 interns were recruited.

About Social Charity (Continue)

	Key Items	Outcome
Campus Cultivation	Equipment Intern	Collaborated with Southern Taiwan University of Science and Technology, National United University, Da-Yeh University, National Kaohsiung University of Science and Technology, National Formosa University, National Yunlin University of Science and Technology and I-SHOU University to provide student internship opportunities at UMC. In 2020, a total of 30 interns were accepted.
	Enterprise Visitations	Provide enterprise visitation opportunity for schools. In order to cooperate with the anti-epidemic policy in 2020, only National Cheng Kung University Nano Program Class and Kaohsiung University of Science and Technology Semiconductor Process Class were provided. About 140 students enrolled.
	Campus Ambassador for disabled students	Employed students who are disabled for work study. Strengthened campus talent recruitment and encouraged disadvantaged students to actively learn. Since the program began in 2013, a total of 152 students with physical disabilities were provided with work study opportunities, and in 2020, 24 students were still employed.
	Campus relationship development (including technical career lectures)	Helped arrange a series of brand image cultivation activities, including book discussion, career sharing, internship cooperation, and exhibits for semiconductor display. In 2020, 11 book discussion sessions were held, with a total of more than 1,029 participants.

	Key Items	Outcome
Campus Cultivation	National Cheng Kung University Career Advisor Program	In its collaboration with key schools in recent years, UMC offers career seminars and career coaching programs to help students understand the future pulse from the perspective of industrial professionals. Moreover, based on student traits and learning, the career coaches provide career plan suggestions to help students find career paths that are appropriate for them. With National Cheng Kung University as an example, UMC has been providing career coaching for 9 years, with more than 200 students from the university participating each year, and the program is still being implemented. In addition, students are assisted with resume writing to help them discover their strengths, sell themselves in their resume and capture the attention of companies and executives. At the same time, colleagues from National Taiwan University, National Tsing Hua University and National Chiao Tung University have their colleagues serve as career counselors to provide professional counseling to their students.

About Social Charity (Continue)

	Key Items	Outcome
Campus Cultivation	PTP Prospective Talent Program	The early contact and agreement with prospective talent on campus enhances connection and interaction with targeted talent. The broadening UMC PTP also expands the image and influence of UMC. Since UMC began recruiting outstanding talent in 2013, 4,910 students have been recruited and 1,331 prospects are still in school.
	Advanced Intelligent Elite Development (AIED)	To acquire higher quality employees, campus relationships and the connection and interaction with outstanding equipment talents are systematically established. Recruitment for outstanding talent began in 2018, and 4,238 students have attended in AIED campus briefings, recruiting a total of 1,291 members.

•UMC Social Participation

Committed to the core philosophy of “people-orientation and co-prosperity with society,” UMC fulfills its corporate social responsibility according to the concept of LOHAS (Lifestyle of Health and Sustainability). UMC believes that the success of a company not only requires personal diligence, but also the support of a harmonious society for it to flourish and develop robustly. Therefore, since its establishment, UMC has declared itself a public instrument in its long-term management policy, and is committed to giving back to society. Therefore, in addition to their commitment to the Company’s business growth, the “Happy Employees” of UMC are also enthusiastic about social charity. To encourage employee participation in charity, UMC provides Charity Leave for employees to participate in volunteer services.

UMC has always been wholehearted in social charity, and continues to donate money to cultural, educational and academic units. Recipients include groups such as National Tsing Hua University, UMC Science and Culture Foundation, UMC Operation Management Thesis Award, National Cheng Kung University academic funding for Nano-IC Engineering, Taiwan Semiconductor Industry Association Environmental Protection Fund, Green Award prizes, VLSI Design/CAD Symposium and GLO Leadership Training Summit as well as charity events.

In the days to come, UMC will remain dedicated to its philosophy of receiving from and giving back to society by supporting social charity.

Summary of donations in 2020:

		In NTD
	Social Participation	Amount
UMC	National Tsing Hua University	75,030,000
	UMC Science and Culture Foundation	10,000,000
	Donated to the 10th UMC Operation Management Thesis Award.	3,800,000
	Taiwan Chess Academy Cultural Foundation	2,500,000
	Chinese Professional Go Association	2,500,000
	The National Cheng Kung University academic funding for Nano-IC Engineering	2,000,000
	Taipei Awakening Association	1,000,000
	Green Award prizes	1,000,000
	Taiwan Semiconductor Industry Association Environmental Protection Fund	525,626
	National Taiwan University	500,000
	Donated to Bethlehem Foundation	257,145
	Catholic Jesuit Hsinchu Social Service Center	114,555
	Donated to VLSI Design/CAD Symposium	100,000
	Catholic Missionary Sisters of Mary and Francis-Miracle Home	98,795
	St. Raphael Opportunity Center	91,980
	St. Joseph Social Welfare Foundation	88,830
	GLO Leadership Training Summit	12,302
	Kaohsiung City Cerebral Palsy Association	1,575
	Total	99,620,808

Environmental Protection, Safety and Health Management Instructions

In terms of environmental protection, safety and health, UMC has set the objective of zero pollution and zero incidents to become an enterprise of sustainable development; in addition to being in compliance with and exceeding the requirements of environmental safety and health laws and regulations, the Company utilizes advanced environmental protection, safety and health, risk and disaster rescue technologies to actively enhance environmental protection and safety aspects based on a forward-looking vision. UMC has also continued with environmental safety and health education and advocacy for all its employees and encouraged active participation in related activities to strengthen the environmental safety and health belief and habits of all employees through subtle influence.

ESH Management System

UMC's ESH management system is established according to ISO14001 and ISO45001 standards. It is intended to integrate daily management with total quality management (TQM) activities such that the ESH management plan can be integrated with actual fab operation in order to achieve the effectiveness of implementation. As for various ESH risks of company operation, the possible impacts of various activities (from

the use of raw materials to the generation of waste) on the environment and all company employees will be evaluated via a systematic approach. As for the items which could result in major environmental impact, the management and reduction will be applied via the assessment/replacement/reduction approach for raw materials, control and reduction of process pollution source, effective treatment of end-of-the-pipe pollution, and residual by-product reclamation. In terms of safety and health, UMC will start with management of equipment, chemical, and operation safety in order to maintain the safety and health of all employees.

In order to achieve the objective of sustainable development, the Company has set clean production and zero incident as the promotion direction of environmental protection and safety and health. Every year UMC will set the objectives and targets of the ESH management system in coordination with the Company's operation direction, and each fab will launch various plans for reducing environmental impact and strengthening safety and health in order to continuously improve company performance of environmental protection and safety and health management.

Achievement Status of UMC's Important ESH Objectives/Targets in 2020:

Objective	Target	Achievement Status
Eliminating major accidents and continuously promoting "Safety First. No Compromise on Safety. Safety Is Above Production"	1. Zero Serious occupational safety incidents	Zero occupational safety incidents throughout the year
	2. Fewer than 9 minor (or above) accidents	A total of 9 incidents throughout the year
Promoting green management Green 2020 project to reduce the Company's impact on the environment	To reduce water, electricity, and waste by 10% over the base year by 2020. 1. Water Usage: 10% reduction (Intensity) 2. Electricity Usage: 10% reduction (Intensity) 3. Waste Generation: 10% reduction (Intensity)	The target of 2020 was achieved
Note: the base year is 2015		

Environmental Protection, Safety and Health Management Instructions (Continue)

Environmental Protection

Greenhouse Gas Reduction and Management

Facing the issues of climate change and worsening global warming, UMC has already prepared and implemented responsive strategies. It set up the "Fluorinated Greenhouse Gases Reduction Work Group" in 1999 to be dedicated to the research and promotion of reduction of fluorinated greenhouse gases. It formulated the "UMC Climate Change Policy" in 2000 as the highest guiding principle of the Company in response to climate change.

The major reduction plans with respect to fluorinated greenhouse gases to be promoted include:

- Measuring the utilization rates of process tools using fluorinated greenhouse gas and the destruction and removal efficiency of its emissions control technologies to be fully aware of the machine performance and to improve those with poor performance.
- Implementing survey and assessment of the consumption amount for fluorinated greenhouse gases in order to understand the greenhouse gas emission volume of each process tool.
- Carrying out a research project on alternative gas to reduce the consumption of process gasses that contribute to global warming potential (GWP) via source improvement.
- As for the new fluorinated greenhouse gas emissions control technologies, the selection, assessment, and investment have been applied for the installation of high performance fluorinated greenhouse gas abatement systems in order to reduce the emission of fluorinated greenhouse gases year by year.

In 2007 and 2011, UMC led the industry in completing the 2-Phase fluorinated greenhouse gases replacement plan (replacing C_2F_6 with C_3F_8 and replacing C_3F_8 with C_4F_8) for the entire company, thus greatly reducing greenhouse gas emissions and its impact on global warming. After years of effort, UMC has achieved the objectives of the "Carbon Reduction 333" project and the "369+ Energy and Resources Productivity Enhancement Project" in 2012 and 2015, respectively. The company has also formulated the "Green 2020" project to commit to goals of 10% water saving, 10% power saving, and 10% waste reduction in the future based on more stringent self-requirement standards and more active spontaneous actions. At this stage, our GHG Offset Project has passed EPA review in 2020, according to Taiwan's voluntary GHG reduction incentive program to apply for carbon credits. UMC estimates it can build 10 years of carbon assets totaling more than 2.2 million tons.

Energy Saving Management

The use of energy will consume the Earth's resources, and it will also generate carbon dioxide resulting in the greenhouse effect. To reduce the environmental impact of the greenhouse effect, UMC has set annual goals and plans to reduce greenhouse gas emission. In addition to constant evaluation and introduction of various energy saving technologies, UMC will carry out energy saving plans for relevant

facilities in order to directly and effectively reduce the Company's energy consumption. In addition, UMC has promoted the implementation of energy saving management plans for offices and public areas together with advocacy activities and educational training in order to enhance the concepts and habits of all employees with regard to energy saving and greenhouse gas reduction.

Water Resources Saving and Management

For more effective utilization of limited water resources, UMC formulated its "Water Management Policy and Commitment" in 2015. From the perspectives of introduction of water resources risk management system, development and application of diversified water resources, supply chain cooperation, and strengthening of water resources education, UMC will continue to promote various water saving measures, actively enhance water efficiency, and introduce new water saving technology in order to promote the emphasis and saving of water resources. According to the fab construction schedule, the fab water recycling rate and process water recycling rate of all fabs are superior to the standard set by the Science Park Bureau. The water saving measures for general water consumption include the adoption of water-efficient taps, rainwater interception for landscape watering, and water conservation of air conditioners and kitchens. In addition to internal water resource assessment and management and active promotion of water conservation, the Company also serves as a representative in industrial unions & associations. The Company cooperates with the government and industrial peers in water resources communication and exchange counseling.

Waste Management and Resource Recycling Management

UMC's waste management is established on an economic and effective waste management mechanism to achieve the objectives of safe, healthy and harmless resource utilization. The strategies include total amount reduction, recycling and reuse of resources, and waste management. UMC has always adhered to the belief of green production while promoting waste and resource recycling management. On one hand it has reduced the generation of waste through process improvement, raw material reduction and source management; on the other hand it has actively promoted waste recycling and reuse to replace the existing end-of-the-pipe treatment mode and to convert garbage into useful resources. In addition to reducing the resources and cost of waste treatment, the Company hopes to help alleviate increasingly serious environmental problems. Finally, in terms of waste management, manpower will be dedicated to regular auditing of the Company's waste disposal service provider and tight control of waste destination while selecting the optimal waste disposal approach.

Pollution Emission and Control

End-of-the-pipe treatment has been regarded as the last resort in recent years. In terms of pollution control, in addition to development of

Environmental Protection, Safety and Health Management Instructions (Continue)

required technologies in response to new environmental protection laws and regulations or standards, UMC has also considered the tolerance and interaction of the overall environment to apply self-management and constantly introduces high performance pollution prevention technologies and equipment. All pollution prevention equipment are operated and maintained by professional work teams, and the operation status of all pollution prevention equipment is monitored by a central system with shifts covering 24-hours to ensure emission quality.

Environment-related Data Disclosure

UMC is committed to the spirit of initiative, openness, transparency and quality, and publicly discloses its management of environment-related information. At present, UMC has set 2025 management targets for important indicators such as greenhouse gas emissions, electricity consumption, water consumption, waste generation and volatile organic compound emissions. At the same time, UMC also disclosed the data of the last 5 years in the corporate social responsibility report and through third-party verification to confirm the latest information and verify the reduction outcome every year. The annual information for 2020 will be verified by third party inspection and publicly disclosed before June 2021.

UMC was also invited to participate in the international CDP organization's climate change and water security disclosure project, and further disclosed the identification results of risks and opportunities and related management information. In 2020, UMC's water security disclosure was awarded the Leadership band, and climate change disclosure was awarded the Management band. It shows that UMC has been recognized by international investment institutions for its sustainable information disclosure.

Other Environmental Management Plans

Over the years, UMC has continued with its effort in environmental protection by constantly introducing various environmental management tools such as environmental management system, product life cycle assessment, and environmental accounting. The hope is to achieve the substantial objectives of environmental improvement and reduction of environmental impact via the environmental management approach, and spontaneous and continuous improvement.

UMC was aware of the green wave coming from the international environmental protection trend and customer demand as early as 2003, and began the promotion of the green supply chain management system and became a SONY Green Partner in the same year. To date, the Company has continuously passed re-verification, indicating that UMC's hazardous substance management effectiveness has been recognized by customers. In 2006, UMC was the first among global semiconductor manufacturers to complete the hazardous substance process

management (HSPM) system audit and to be granted the recommended registration. UMC has also become the first semiconductor manufacturer in the world to have all fabs granted with the QC-080000 IECQ HSPM certificate.

In addition, for laying the foundation of green product, process and design, UMC has actively implemented comprehensive carbon/water management plans. In September 2009, it completed the world's first "Product Carbon Footprint" and EPD (Environmental Product Declaration) verification for IC wafers, and obtained the independent verification statement issued by a third party to become the first semiconductor company in Taiwan to independently and completely calculate and verify the product carbon emission information. In 2000, it was the first in the industry to complete the water footprint verification of 8-inch and 12-inch fabs. With the important operational belief of symbiosis with a sustainable environment, UMC has provided its comprehensive green production system plans to help its customers produce environmental friendly, high quality products. The completion of carbon footprint, water footprint, and environmental product declaration indicates that UMC has tracked and monitored the information of various environmental impacts during the IC wafer manufacturing process through rigorous systems with international certification, and helped customers completely construct the environmental information of green product and supply chain. This also specifically demonstrates UMC's active undertaking of social responsibility.

In the future, UMC will more aggressively promote the green supply chain project based on carbon footprint, water footprint, and Environmental Product Declaration to help customers produce green products with lower environmental impact and to enhance the sustainable competitiveness of the entire supply chain.

Safety and Health**Promoting the Culture of Individual Occupational Safety**

The analysis of the causes of domestic and foreign accidents has revealed that 90% of them are due to "Human Factors," such that the safety of personal behavior has a more profound impact on the safety of the organization. Therefore, UMC is dedicated to promoting the safety and health culture of "Individual Occupational Safety." Starting from "Pay attention to your own safety and care about other's safety" and "Occupational safety is everyone's responsibility" and under the declaration and leadership of the chairman, UMC has introduced the safety thinking mode, and established complete communication and proposal channels so that employees can express their opinions and receive professional response and assistance, implement safety and health protection work, and continuously enhance the quality of the work environment. It is expected that UMC can become the global role model of safety and health.

Environmental Protection, Safety and Health Management Instructions (Continue)

Safety and Health Management

By law, all UMC fabs have formulated labor safety and health management plans every year, and the contents include:

- **ESH Risk Assessment**

Ever since the founding of the Company, UMC has been introducing various methods for risk assessment of the Company's processes, equipment, and chemicals. UMC has also tried to reduce the occurrence of accidents and environmental pollution caused by process and equipment through engineering improvement and process replacement.

As for the safety and health risk, UMC has divided them into preliminary review, change review, and regular review. As for the execution of preliminary review, in addition to using a simple risk matrix for selecting operating activities with higher risks to carry out improvement and management, UMC has also conducted the review and risk reduction of hazardous workplace with respect to the items listed in the Hazardous Workplace Review and Inspection Rules.

As for the environmental and safety and health risks caused by change of equipment, and introduction of new chemicals and new machines, the assessment should be carried out according to the rules of change review. In addition to managing these according to domestic laws and regulations, the specification requirements of safety facilities and environmental protection of equipment and chemicals should be specified according to international standards, so that the ESH impacts can be minimized at the beginning of such change.

In addition to the aforementioned preliminary review and change review, the ESH risk assessment will be conducted again for all operations ever three years, and the operation items with increased risk levels must be examined to see if there is a need for improvement.

- **Management of Machine, Equipment, or Appliance**

In addition to being in compliance with domestic standards, such as CNS (Chinese National Standards) and safety standards for machine, equipment, and appliances, the machines used by UMC must come with the reports (provided by the equipment supplier) meeting the semiconductor manufacturing equipment safety, health, and environmental protection standard (SEMI S2) formulated by international semiconductor equipment and material organizations. If there is any non-conforming item, it must be improved before entry into the fab. After fab entry, the water, electrical, gas, and chemical use safety inspection must be conducted according to different stages of machine installation before these machines can be used.

During machine operation and maintenance, employees should receive the educational training of the machine operation and be in compliance with the operation rule. Unless there is approved application and adoption of alternative safety measures, it is prohibited to disable the safety interlock device of the machine in order to avoid any significant occupational incident.

- **Management of Hazardous Chemicals**

UMC has a hazardous chemical management strategy. All chemicals entering UMC must comply with the strategy and strict safety review mechanisms before they can be used in UMC.

UMC's sound chemical management process meets regulatory requirements. In addition to labeling and training by law, the exposure risk assessment method should be introduced and the chemical risk level and classification management measures should be established in order to reduce the exposure hazard risks to workers.

The working environment monitoring should be conducted every six months according to the Rules for Implementation of Working Environment Monitoring. The effective sampling strategy should be formulated, and the monitoring results should be verified by statistical analysis tool to ensure the exposure situation of every similar exposure group and to protect the health of employees.

There are toxic gas detectors distributed in the working environment in the fab for early control of trace gas leaks with timely warning and automatic broadcasts to notify employees to evacuate to designated safe areas.

- **Procurement Management and Contractor Management**

UMC has specified the safety and health rule of procurement in the operation regulation of the Company's procurement department. The raw materials suppliers will be requested to conduct labeling, production, and transportation according to domestic laws and regulations, and there will be regular audits of suppliers to ensure that there will not be any safety or health or environmental protection accident that would cause abnormal supply.

As for the contractor management, the active and effective management approach should be adopted to prevent contractors from accidents. In addition to carrying out qualified contractor evaluation and formulating "Notices of ESH Contractor" to be signed by the person in charge of the contractor, all workers entering the fab should receive UMC's "Contractor ESH Educational Training." In addition, the "Contractor Work Place Hazard Notification and Agreement Meeting" should be completed for all contractors entering the fab. A complete online application system should be established for effective control of construction application and the management before, during, and after the construction. In addition to requesting the contractor to assign onsite supervisory personnel, a safety agreement meeting should be convened every day before construction. During the construction period, occupational safety personnel should conduct frequent audits in addition to the onsite supervision by the responsible department in order to ensure that all operations are in compliance with safety regulations.

- **Formulation of Safety and Health Operational Standard**

UMC has formulated the safety and health protection standard which is applicable to the entire company, and each operational department should formulate operational standards for different operations according to company regulation. The content should include: operating procedure, operation inspection and regular inspection items, protective equipment to be used, and operation frequency.

In addition to being in compliance with the operational standard, all employees should pay attention to the unsafe behaviors of others and

Environmental Protection, Safety and Health Management Instructions (Continue)

offer reminders at the work place according to the spirit of individual occupational safety in order to achieve the optimal effect of personal discipline control.

• Regular Inspection, Key Points Inspection, Operation Inspection, and Onsite Walkthrough

Regular and key points inspections should be arranged for various facilities and operations according to laws and regulations, and operation inspections should be conducted regularly by employees in charge of facilities and operations.

In addition to the matters specified by laws and regulations, supervisors at all levels and occupational safety personnel should arrange regular and irregular onsite walkthroughs and audits. The deficiencies of audits should be tracked by computer system, and these cases can only be closed after the improvement is completed.

• Safety and Health Educational Training

The safety and health education and training of UMC are divided into three categories depending on the nature of the work:

- General safety and health education and training for the entire company.
- Factory area safety and health education and training organized by each Fab.
- Safety and health education and training formulated by each department depending on its characteristics.

“Safety First; Safety Is Above Production!” is UMC’s commitment to its employees, and is also the basis for UMC to carry out the planning and implementation of necessary safety and health education and training for its work and hazard prevention operations. Based on the organizational structure of UMC, the general training courses for the entire company; the factory area training courses for each fab; and the specific training courses for each department were formulated, allowing the employees to develop a safety culture, raising their awareness in work safety, and reducing accidents caused by unsafe behaviors. In addition to the planned courses, topic-based training courses for specific events or major cases are also conducted on a rolling basis from time to time. For instance, the “executive safety culture seminars” for senior executives, the “supervisor safety awareness courses” for specific departments, and the professional trainings carried out by external occupational safety and health experts and scholars for UMC’s occupational safety and health management personnel were organized in 2020. In 2020, a total of 2,082 sessions of education and training were conducted, with 38,776 participants completing the training. The offered education and training also include e-learning courses, allowing employees to acquire safety and health knowledge without being limited by schedule of the physical courses.

• Management of Personal Protective Equipment

UMC establishes management procedures based on the type of the hazards and provides adequate personal protective equipment (PPE) for workers to use. The condition of PPE is regularly checked, and the supervisors and occupational safety personnel also occasionally inspect the use of PPE.

• Health Examination, Health Management, and Health Promotion Matters

UMC values employees as the most important asset of an enterprise. Only employees that are healthy both physically and mentally can provide highly efficient and high quality work performance. Therefore, over the years UMC has been dedicated to creating a work place that can contribute to physical, mental, and spiritual health. In addition to helping employees with comprehensive health management and health promotion, care has been extended to employees’ families, hoping to achieve the goals of work moral and work quality enhancement.

• Collection, Sharing, and Utilization of Safety and Health Information

The collection and sharing of company safety and health information are conducted via diversified modes. Domestic and foreign safety and health regulations are collected and reviewed by the Risk Management and Safety and Health Division, which will suggest to carry out the proposal within the Company to be approved by the ESH Committee. The external major accidents and safety and health news will be advocated to employees via CSR newsletter or BBS within the Company. The safety and health advocacy posters will be put on occupational safety bulletin boards in all fabs frequently. In addition, communication channels such as ESH mailbox and ESH proposal systems have been established on the Company’s intranet website for employees to reflect opinions or problems related to safety and health management.

• Emergency Response Measures

In order to allow employees to be equipped with the knowledge and skills of immediate disaster relief upon occurrence of any accident, all employees must take basic fire-fighting, safety and emergency response courses arranged by the Company every 5 years. These courses cover fire safety, disaster response, and actual operation of fire extinguishers, and all employees are expected to be equipped with such skills. In addition, an emergency response team (ERT) is formed in every fab, and the members of this team should receive various emergency response trainings and regular rehearsals with respect to various accidents in order to strength the disaster response skills of ERT members and to achieve the objective of protection and control at the initial stage of disaster.

• Statistical Analysis of Occupational Incidents

As for occupational incidents that take place at the work place, in addition to regular summaries and reports, every accident must be registered in the accident report and investigation system to be tracked. In addition to the investigation of accident causes and improvement and prevention, accident prevention should be included as the Company’s objective and target of safety and health management. Various activities must be promoted in order to achieve accident reduction and safety enhancement.

• Safety and Health Management Record, Performance Review, and Rewards

For facilitating management, in addition to written records, UMC has established multiple computer systems as an aid for safety and health

Environmental Protection, Safety and Health Management Instructions (Continue)

management, such as an automatic inspection system, ISO14001 and ISO45001 management systems, accident report and investigation system, and walkthrough report system. In addition to facilitating data inquiry by employees, the tracking of preventive management measures should also be strengthened.

For the performance of safety and health management, in addition to management review meetings regularly convened in each fab and for the entire company to review the objectives and targets, occupational competitions will be arranged in each fab, and all active occupational management indicators should be included as the evaluation items for individuals and departments. The departments with outstanding performances should be rewarded, and the selection of outstanding occupational safety achievement will be arranged every year in the Company to encourage the active improvement of safety and health in the work environment and the exchange of safety and health improvement matters among different fabs. These will also contribute to the promotion of individual occupational safety and reduction of accidents.

Granted Awards of Safety and Health and Environmental Protection

UMC has been devoted to the promotion of environmental protection and labor safety and health. In addition to being dedicated to achieving the international level of risk control and environmental protection and safety and health management performance, UMC's various ESH management behaviors have also been well received by competent authorities and among peers.

The awards granted to UMC in 2020 are as shown below:

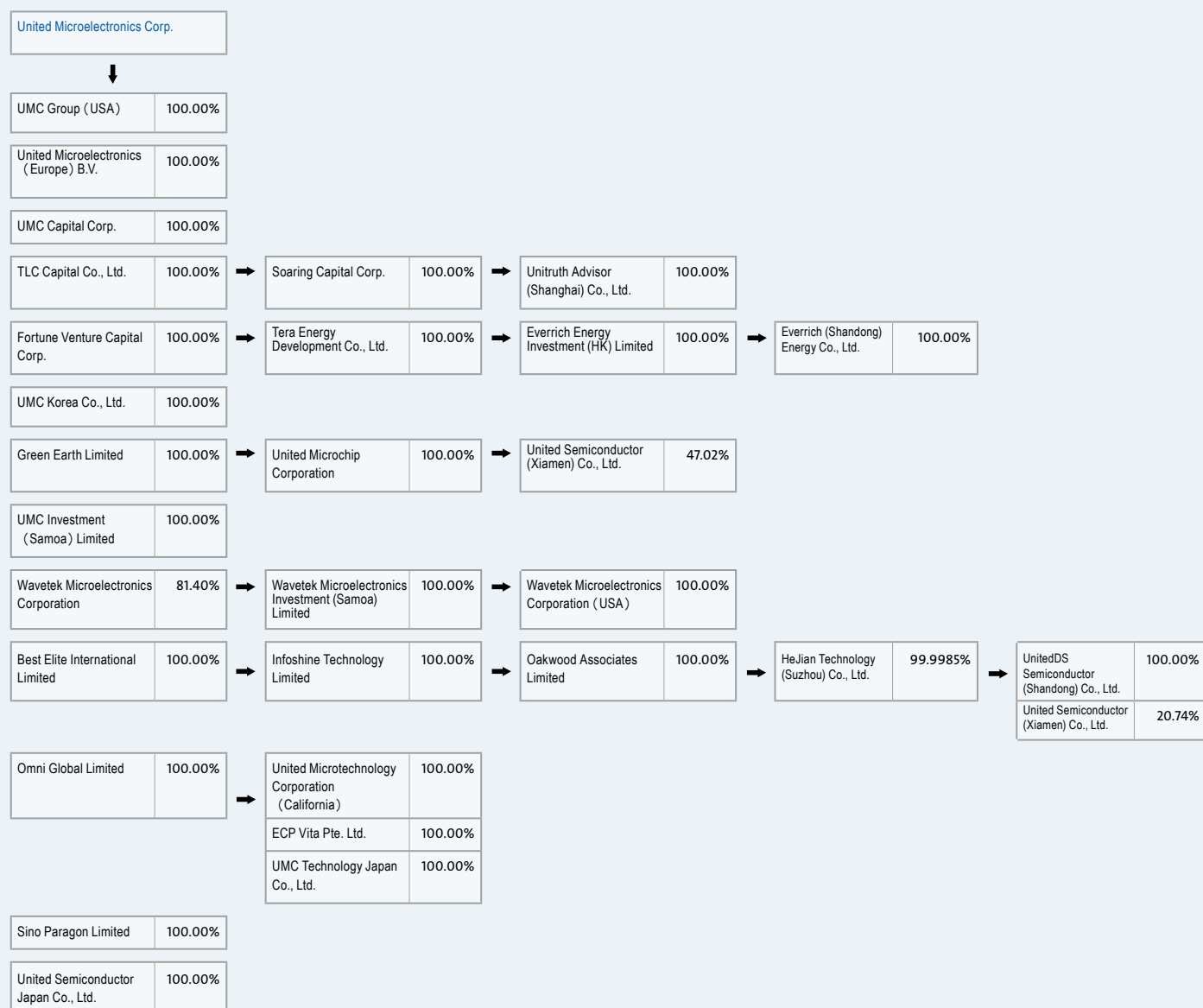
- "National Enterprise Environmental Protection Award" by the Environmental Protection Administration of Executive Yuan, R.O.C. (Fab 12A, Fab 8S)
- "Green Chemical Application and Innovation Award" by the Environmental Protection Administration of Executive Yuan, R.O.C.
- "The Best Participation of Green Procurement for Enterprises" by the Environmental Protection Administration of Executive Yuan, R.O.C.
- "Green Factory" by the Industrial Development Bureau, Ministry of Economic Affairs, R.O.C. (Fab 8F)
- "Business with Outstanding Environmental Protection Performance" by the Southern Taiwan Science Park Bureau, Ministry of Science and Technology, R.O.C. (Fab 12A II)
- "Outstanding Occupational Safety and Health Unit" by the Southern Taiwan Science Park Bureau (Fab 12A)
- "Outstanding Occupational Safety and Health Unit" by the Hsinchu Science Park Bureau, Ministry of Science and Technology, R.O.C. (Fab 8S)

Special Disclosures

- 169 Summary of Affiliated Enterprises
- 181 Issuance of Private Placement Securities
- 181 Acquisition or Disposal of UMC Shares by Subsidiaries
- 181 Other Necessary Supplements
- 181 Disclosures of Events Which May Have a Significant Influence on Stockholders' Equity or Share Price, in Compliance with Item 3, Paragraph 2 in Article 36 of the Securities and Exchange Law of the R.O.C.

Summary of Affiliated Enterprises

Affiliated Organization Chart



Note: UMC holds 80.75% of Wavetek Microelectronics Corporation (Wavetek); Fortune Venture Capital Corp. holds 0.65% of Wavetek, and the comprehensive shareholding ratio is 81.40%.

Summary of Affiliated Enterprises (Continue)

Basic Data of Affiliated Enterprises

In NTD

Name of Corporation	Date of Establishment	Address	Capital	Major Business / Production Items
UMC Group (USA)	1997.08.11	488 De Guigne Drive, Sunnyvale, CA 94085, USA	486,122,625	IC Sales
United Microelectronics (Europe) B.V.	1989.05.23	De Entree77, 1101BH, Amsterdam Zuidoost, The Netherlands	114,608,397	Marketing support activities
UMC Capital Corp.	2001.01.16	190 Elgin Avenue, George Town, Grand Cayman, Cayman Islands	2,119,360,882	Investment holding
UMC Korea Co., Ltd.	2013.04.12	1117, Hanshin Intervals 24, 322, Teheran-ro, Gangnam-gu, Seoul, Korea	13,805,000	Marketing support activities
TLC Capital Co., Ltd.	2005.10.14	5F, No.17, Lane 120, Neihu Road Section 1, Taipei, Taiwan 114, R.O.C.	4,001,671,030	Venture capital
Fortune Venture Capital Corp.	1993.09.21	5F, No.17, Lane 120, Neihu Road Section 1, Taipei, Taiwan 114, R.O.C.	4,017,344,480	Consulting and planning for venture capital
Green Earth Limited	2009.09.09	Maystar Chambers, P.O. Box 3269, Apia, Samoa	29,988,444,000	Investment holding
UMC Investment (Samoa) Limited	2011.03.30	Maystar Chambers, P.O. Box 3269, Apia, Samoa	43,519,120	Investment holding
ECP Vita Pte. Ltd.	2012.05.10	8 Marina View, #09-05 Asia Square Tower one, Singapore 018960	266,166,000	Insurance
Soaring Capital Corp.	2008.03.25	Level 2, Lotemau Centre, Vaea Street, Apia, Samoa	27,351,000	Investment holding
Unitruth Advisor (Shanghai) Co., Ltd.	2008.10.16	No.1468, Nanjing Road West, Suite 2908 Shanghai, China	23,659,200	Investment holding and advisory
Tera Energy Development Co., Ltd.	2011.07.19	1F., No.1, Jinshan 8th St., Hsinchu, Taiwan 30080, R.O.C.	186,550,910	Energy technical services
Everrich Energy Investment (HK) Limited	2009.12.16	Room 2702-03, CC Wu Building, 302-8 Hennessy Road, Wanchai, Hong Kong	25,988,211	Investment holding
Everrich (Shandong) Energy Co., Ltd.	2009.11.02	Entrepreneurship Service Center, Building 4, Torch City, High-tech Zone, Jining City, Shandong Province, China	22,180,500	Solar engineering integrated design services

Summary of Affiliated Enterprises (Continue)

In NTD

Name of Corporation	Date of Establishment	Address	Capital	Major Business / Production Items
Wavetek Microelectronics Corporation	2010.10.18	3F.,No. 10, Innovation 1st Road, Hsinchu Science Park, Hsinchu County, Taiwan, R.O.C.	1,834,121,130	Sales and manufacturing of integrated circuits
Wavetek Microelectronics Investment (Samoa) Limited	2013.08.28	Le Sanalele Complex, Ground Floor, Vaea Street, Saleufi, Apia, Samoa	50,833,500	Investment holding
Wavetek Microelectronics Corporation (USA)	2013.09.26	488 De Guigne Drive, Sunnyvale, CA 94085, USA	1,774,440	Marketing service
Best Elite International Limited	2001.07.12	P.O. Box 957, Offshore Incorporations Centre, Road Town, Tortola, B.V.I.	7,067,465,873	Investment holding
Infoshine Technology Limited	2002.02.12	P.O. Box 957, Offshore Incorporations Centre, Road Town, Tortola, B.V.I.	10,469,196,000	Investment holding
Oakwood Associates Limited	2002.02.12	P.O. Box 957, Offshore Incorporations Centre, Road Town, Tortola, B.V.I.	10,469,196,000	Investment holding
HeJian Technology (Suzhou) Co., Ltd.	2001.11.23	No. 333, Xinghua Street, Suzhou Industrial Park, Suzhou, Jiangsu Province 215025, China	13,480,730,005	Sales and manufacturing of integrated circuits
UnitedDS Semiconductor (Shandong) Co., Ltd.	2014.03.25	21th Floor, Artificial Intelligence Building, Hanyu Finance Valley, Jingshi Road, Jinan, Shandong Province, China	128,580,000	Design support of integrated circuits
Omni Global Limited	2013.07.02	Maystar Chambers, P.O. Box 3269, Apia, Samoa	130,160,000	Investment holding
United Microtechnology Corporation (California)	2014.12.10	488 Deguigne Drive, Sunnyvale, CA 94085, USA	29,574,000	Research & development
United Semiconductor (Xiamen) Co., Ltd.	2014.10.01	No. 899, Wan Jia Chun Road, Xiang An, Xiamen, Fujian Province, China	58,708,745,084	Sales and manufacturing of integrated circuits
United Microchip Corporation	2015.02.04	Suite 102, Cannon Place, P.O. Box 712 North Sound Rd., George Town, Grand Cayman, KY1-9006	29,874,878,250	Investment holding
UMC Technology Japan Co., Ltd.	2016.04.01	2000, Mizono, Tado-cho, Kuwana-shi, Mie, Japan	4,830,000	Semiconductor manufacturing technology development and consulting services
Sino Paragon Limited	2016.06.06	Maystar Chambers, P.O. Box 3269, Apia, Samoa	83,204,400	Investment holding
United Semiconductor Japan Co., Ltd.	2014.09.18	2000, Mizono, Tado-cho, Kuwana-shi, Mie, Japan	2,760,000,000	Sales and manufacturing of integrated circuits

Note: The data is dated December 31, 2020

Summary of Affiliated Enterprises (Continue)

Data for Common Shareholders of Treated-as Controlled Companies and Affiliates

None.

Business of United Microelectronics Corporation (UMC) and Its Affiliated Enterprises

The business of UMC and its affiliated enterprises includes semiconductor wafer manufacturing, electronics, optronics, investment activities, insurance, and trade.

Summary of Affiliated Enterprises (Continue)

Directors, Supervisors and Presidents of Affiliated Enterprises

Name of Corporation	Title	Name or Representative	Shareholding	
			Shares	%
UMC Group (USA)	Director	Jason Wang	—	—
	Director	Chitung Liu	—	—
United Microelectronics (Europe) B.V.	Director	Stan Hung	—	—
	Director	Jason Wang	—	—
UMC Capital Corp.	Chairman	Stan Hung	—	—
	Director	SC Chien	—	—
	Director	Jason Wang	—	—
	Director	Chitung Liu	—	—
	Director	Chih Chiang Peng	—	—
UMC Korea Co., Ltd.	Director	Carissa Tseng	—	—
TLC Capital Co., Ltd.	Chairman	United Microelectronics Corporation	400,167,103	100.00
		Representative: Stan Hung	—	—
	Director	United Microelectronics Corporation	400,167,103	100.00
		Representative: SC Chien	—	—
	Director	United Microelectronics Corporation	400,167,103	100.00
		Representative: Jason Wang	—	—
	Director	United Microelectronics Corporation	400,167,103	100.00
		Representative: Chitung Liu	—	—
	Director	United Microelectronics Corporation	400,167,103	100.00
		Representative: Chih Chiang Peng	—	—
	Supervisor	United Microelectronics Corporation	400,167,103	100.00
		Representative: Jinhong Lin	—	—

Summary of Affiliated Enterprises (Continue)

Name of Corporation	Title	Name or Representative	Shareholding	
			Shares	%
Fortune Venture Capital Corp.	Chairman	United Microelectronics Corporation	401,734,448	100.00
		Representative: Stan Hung	—	—
	Director	United Microelectronics Corporation	401,734,448	100.00
		Representative: SC Chien	—	—
	Director	United Microelectronics Corporation	401,734,448	100.00
		Representative: Jason Wang	—	—
	Director	United Microelectronics Corporation	401,734,448	100.00
		Representative: Chitung Liu	—	—
	Director and President	United Microelectronics Corporation	401,734,448	100.00
		Representative: Chih Chiang Peng	—	—
	Supervisor	United Microelectronics Corporation	401,734,448	100.00
		Representative: Bellona Chen	—	—
Green Earth Limited	Director	Chitung Liu	—	—
UMC Investment (Samoa) Limited	Director	United Microelectronics Corporation	1,520,000	100.00
ECP Vita Pte. Ltd.	Director	Chitung Liu	—	—
	Director	Bellona Chen	—	—
	Director	Vic Yen	—	—
	Director	Sofia Wang	—	—

Summary of Affiliated Enterprises (Continue)

Name of Corporation	Title	Name or Representative	Shareholding	
			Shares	%
Soaring Capital Corp.	Director	TLC Capital Co., Ltd.	900,000	100.00
Unitruth Advisor (Shanghai) Co., Ltd.	Director	Chih Chiang Peng	—	—
Tera Energy Development Co., Ltd.	Chairman	Fortune Venture Capital Corp.	18,655,091	100.00
		Representative: Chih Chiang Peng	—	—
	Director	Fortune Venture Capital Corp.	18,655,091	100.00
		Representative: Su Ying Shih	—	—
	Director	Fortune Venture Capital Corp.	18,655,091	100.00
		Representative: Jinhong Lin	—	—
Everrich Energy Investment (HK) Limited	Supervisor	Fortune Venture Capital Corp.	18,655,091	100.00
		Representative: Tachih Lung	—	—
	Director	Tera Energy Development Co., Ltd.	750,000	100.00
	Director	Jinhong Lin	—	—
Everrich (Shandong) Energy Co., Ltd.	Executive Director	Chih Chiang Peng	—	—
	Supervisor	Su Ying Shih	—	—

Summary of Affiliated Enterprises (Continue)

Name of Corporation	Title	Name or Representative	Shareholding	
			Shares	%
Wavetek Microelectronics Corporation	Chairman	United Microelectronics Corporation	148,112,434	80.75
		Representative: M C Lai	—	—
	Director	United Microelectronics Corporation	148,112,434	80.75
		Representative: G C Hung	—	—
	Director	United Microelectronics Corporation	148,112,434	80.75
Representative: Sherry Chang		—	—	
	Supervisor	Chih Chiang Peng	15,001	0.00
Wavetek Microelectronics Investment (Samoa) Limited	Director	M C Lai	—	—
Wavetek Microelectronics Corporation (USA)	Director	Mao Jwo	—	—
Best Elite International Limited	Director	Chau-Shen Yu	—	—
	Director	Jeremy Wang	—	—
	Director	Eric Chen	—	—
	Director	Jinhong Lin	—	—
Infoshine Technology Limited	Director	Chau-Shen Yu	—	—
Oakwood Associates Limited	Director	Chau-Shen Yu	—	—

Summary of Affiliated Enterprises (Continue)

Name of Corporation	Title	Name or Representative	Shareholding	
			Shares	%
HeJian Technology (Suzhou) Co., Ltd.	Chairman	Chau-Shen Yu	—	—
	Director and General Manager	M C Gao	—	—
	Director	Chitung Liu	—	—
	Director	M C Lai	—	—
	Director	Jinhong Lin	—	—
	Supervisor	Angel Sun	—	—
	Supervisor	I Cheng Lu	—	—
	Supervisor	Yann Wei Chen	—	—
UnitedDS Semiconductor(Shandong) Co., Ltd.	Executive Director	Stan Hung	—	—
	Supervisor	Wesley Chu	—	—
Omni Global Limited	Director	Chitung Liu	—	—
United Microtechnology Corporation (California)	Director	Jason Wang	—	—
	Director	Megan Su	—	—

Summary of Affiliated Enterprises (Continue)

Name of Corporation	Title	Name or Representative	Shareholding	
			Shares	%
United Semiconductor (Xiamen) Co., Ltd.	Chairman	Chau-Shen Yu	—	—
	Vice Chairman	Chih-Ching Hsu	—	—
	Director	Jinhong Lin	—	—
	Director	Wayne Tan	—	—
	Director	T C Chen	—	—
	Director	I Cheng Lu	—	—
	Director	Yi Yan Hong	—	—
	Director	Guo Dong Di	—	—
	Director	Tao Yang	—	—
	Supervisor	Rong Fang Li	—	—
Supervisor	Angel Sun	—	—	
United Microchip Corporation	Director	Chitung Liu	—	—
UMC Technology Japan Co., Ltd.	Director	James W Wang	—	—
	Director	Jinhong Lin	—	—
Sino Paragon Limited	Director	Jason Wang	—	—
	Director	Chitung Liu	—	—
United Semiconductor Japan Co., Ltd.	Chairman	S S Hong	—	—
	Director	Ming Hsu	—	—
	Director	Chitung Liu	—	—
	Director	Yen Huang	—	—
	Director	Michiari Kawano	—	—
	Director	Koichi Onomura	—	—
	Director	Tatsuya Deguchi	—	—
	Supervisor	Angel Sun	—	—

Note: The data is dated December 31, 2020.

Summary of Affiliated Enterprises (Continue)

Summarized Operating Results of UMC Subsidiaries

In Thousand NTD

Company	Capital	Assets	Liabilities	Net Worth	Operating Revenues	Operating Income (Loss)	Net Income (Loss)	Earnings (Loss) Per Share (NTD)
UMC Group (USA)	486,123	9,067,653	7,250,669	1,816,984	52,375,054	65,405	66,833	4.07
United Microelectronics (Europe) B.V.	114,608	163,244	29,978	133,266	47,294	2,597	461	51.21
UMC Capital Corp.	2,119,361	4,264,981	392	4,264,589	969,687	552,087	552,087	7.70
UMC Korea Co., Ltd.	13,805	22,464	1,461	21,003	16,417	1,851	1,124	10.22
TLC Capital Co., Ltd.	4,001,671	4,661,222	94,289	4,566,933	1,052,478	316,108	294,622	0.74
Fortune Venture Capital Corp.	4,017,344	6,287,733	75,280	6,212,453	2,045,243	777,800	741,604	1.85
Green Earth Limited	29,988,444	10,166,702	-	10,166,702	-	-	(3,062,542)	(3.13)
UMC Investment (Samoa) Limited	43,519	39,961	-	39,961	-	-	(2,061)	(1.36)
ECP Vita Pte. Ltd.	266,166	677,866	114,901	562,965	36,656	32,540	34,369	3.82
Soaring Capital Corp.	27,351	8,174	-	8,174	0	(2,211)	(2,222)	(2.47)
Unitruth Advisor (Shanghai) Co., Ltd.	23,659	9,118	1,227	7,891	7,051	(2,037)	(2,185)	NA
Tera Energy Development Co., Ltd.	186,551	65,315	2,655	62,660	6,601	(1,903)	(10,586)	(0.57)
Everrich Energy Investment (HK) Limited	25,988	41,365	39	41,326	-	(39)	2,281	3.04
Everrich (Shandong) Energy Co., Ltd.	22,181	49,560	9,215	40,345	9,835	2,698	2,332	NA

Summary of Affiliated Enterprises (Continue)

In Thousand NTD

Company	Capital	Assets	Liabilities	Net Worth	Operating Revenues	Operating Income (Loss)	Net Income (Loss)	Earnings (Loss) Per Share (NTD)
Wavetek Microelectronics Corporation	1,834,121	1,806,688	1,199,029	607,659	2,302,418	94,136	68,545	0.38
Wavetek Microelectronics Investment (Samoa) Limited	50,834	3,026	-	3,026	-	(3,538)	(3,503)	(2.16)
Wavetek Microelectronics Corporation (USA)	1,774	3,164	273	2,891	4,625	223	155	2.59
Best Elite International Limited	7,067,466	23,039,727	2,488	23,037,239	-	(5,502)	2,005,823	3.02
Infoshine Technology Limited	10,469,196	22,976,677	-	22,976,677	-	-	2,014,798	NA
Oakwood Associates Limited	10,469,196	22,976,677	-	22,976,677	-	(205)	2,014,798	NA
HeJian Technology (Suzhou) Co., Ltd.	13,480,730	25,655,214	3,746,175	21,909,039	11,788,176	3,041,093	2,048,191	0.65
UnitedDS Semiconductor (Shandong) Co., Ltd.	128,580	593,896	305,920	287,976	306,198	62,603	65,194	NA
Omni Global Limited	130,160	585,317	-	585,317	-	(315)	26,487	6.16
United Microtechnology Corporation (California)	29,574	37,582	1,527	36,055	25,957	1,469	1,422	35,548.55
United Semiconductor (Xiamen) Co., Ltd.	58,708,745	67,045,923	45,853,495	21,192,428	13,019,908	(6,009,900)	(6,055,263)	NA
United Microchip Corporation	29,874,878	10,141,318	-	10,141,318	-	-	(3,061,316)	(3.14)
UMC Technology Japan Co., Ltd.	4,830	8,773	50	8,723	-	(165)	(215)	(61.54)
Sino Paragon Limited	83,204	142,353	-	142,353	-	-	20,513	7.89
United Semiconductor Japan Co., Ltd.	2,760,000	23,242,364	5,402,849	17,839,515	14,980,821	351,423	154,542	1.33

Note: USD:NTD=1:29.574, JPY:NTD=1:0.2760, EUR:NTD=1:33.733, RMB:NTD=1:4.286, KRW:NTD=1:0.02510

Issuance of Private Placement Securities

None.

Acquisition or Disposal of UMC Shares by Subsidiaries

In Thousand NTD, Shares

Subsidiary	Paid-in Capital	Source of Capital	Holding % by the Company	Acquisition or Disposal Date	Shares Acquired and Amount	Disposal Shares and Amount	Profit/Loss	As of Annual Report Printing Date	
								Shares	Amount
Fortune Venture Capital Corp.	4,017,344	New shares for cash	100.00	2021	None	None	None	16,078,737	105,114
				2020	None	None	None	16,078,737	105,114

Note: (1) The data is dated February 24, 2021.

(2) None of the above companies pledged UMC shares as collateral.

(3) The Company did not provide endorsements or guarantees to these subsidiaries.

(4) The Company did not provide loans to these subsidiaries.

Other Necessary Supplements

None.

Disclosures of Events Which May Have a Significant Influence on Stockholders' Equity or Share Price, in Compliance with Item 3, Paragraph 2 in Article 36 of the Securities and Exchange Law of the R.O.C. During 2020 and as of the Annual Report Printing Date

None.

Financial Review

183	Condensed Balance Sheets
185	Condensed Statements of Comprehensive Income
187	Financial Analysis
191	Audit Committee's Review Report
192	Financial Statements – Consolidated
269	Financial Statements – Parent Company

Condensed Balance Sheets

Condensed Balance Sheets-Consolidated

In Thousand NTD

Item		2020	2019	2018	2017	2016
Current assets		164,305,911	153,757,141	141,193,432	139,160,486	110,469,594
Property, plant and equipment		132,774,663	150,374,096	172,846,595	205,741,681	224,983,404
Intangible assets		4,877,913	5,198,247	2,991,804	3,787,509	4,088,303
Other assets		75,557,888	60,857,881	47,573,075	45,409,486	47,113,881
Total assets		377,516,375	370,187,365	364,604,906	394,099,162	386,655,182
Current liabilities	Before distribution	78,243,526	72,714,322	49,899,337	88,061,070	71,978,462
	After distribution	*	82,479,477	56,815,442	96,618,093	78,090,621
Non-current liabilities		63,499,747	90,258,621	108,169,078	92,000,508	95,935,096
Total liabilities	Before distribution	141,743,273	162,972,943	158,068,415	180,061,578	167,913,558
	After distribution	*	172,738,098	164,984,520	188,618,601	174,025,717
Equity attributable to the parent company		235,659,746	206,804,357	206,069,723	213,080,776	216,579,895
Capital		124,224,015	117,575,798	124,243,187	126,243,187	126,243,187
Additional paid-in capital		43,211,214	39,550,394	40,399,363	40,858,350	40,997,092
Retained earnings	Before distribution	80,176,360	60,820,280	61,588,543	48,065,899	47,655,176
	After distribution	*	51,055,125	54,672,438	39,508,876	41,543,017
Other components of equity		(11,832,042)	(11,022,314)	(14,513,940)	2,632,377	6,403,477
Treasury stock		(119,801)	(119,801)	(5,647,430)	(4,719,037)	(4,719,037)
Non-controlling interests		113,356	410,065	466,768	956,808	2,161,729
Total equity	Before distribution	235,773,102	207,214,422	206,536,491	214,037,584	218,741,624
	After distribution	*	197,449,267	199,620,386	205,480,561	212,629,465

Note 1: *Subject to change based on resolutions of the 2021 shareholders' meeting.

Note 2: The company listed on the TWSE or traded on the TPEX shall include in its analysis the updated financial data which are audited or reviewed by a CPA for the most recent period up to the publication date of the annual report: None.

Condensed Balance Sheets-Parent Company

In Thousand NTD

Item		2020	2019	2018	2017	2016
Current assets		122,967,977	107,866,299	101,335,770	106,676,034	82,558,263
Property, plant and equipment		66,640,272	79,486,445	101,115,727	127,101,974	157,573,131
Intangible assets		4,167,373	4,082,826	2,886,159	3,459,829	4,015,370
Other assets		125,122,444	111,315,394	93,849,564	84,756,630	82,908,196
Total assets		318,898,066	302,750,964	299,187,220	321,994,467	327,054,960
Current liabilities	Before distribution	29,622,014	43,764,772	26,797,263	58,655,702	47,397,892
	After distribution	*	53,529,927	33,713,368	67,212,725	53,510,051
Non-current liabilities		53,616,306	52,181,835	66,320,234	50,257,989	63,077,173
Total liabilities	Before distribution	83,238,320	95,946,607	93,117,497	108,913,691	110,475,065
	After distribution	*	105,711,762	100,033,602	117,470,714	116,587,224
Capital		124,224,015	117,575,798	124,243,187	126,243,187	126,243,187
Additional paid-in capital		43,211,214	39,550,394	40,399,363	40,858,350	40,997,092
Retained earnings	Before distribution	80,176,360	60,820,280	61,588,543	48,065,899	47,655,176
	After distribution	*	51,055,125	54,672,438	39,508,876	41,543,017
Other components of equity		(11,832,042)	(11,022,314)	(14,513,940)	2,632,377	6,403,477
Treasury stock		(119,801)	(119,801)	(5,647,430)	(4,719,037)	(4,719,037)
Total equity	Before distribution	235,659,746	206,804,357	206,069,723	213,080,776	216,579,895
	After distribution	*	197,039,202	199,153,618	204,523,753	210,467,736

Note 1: * Subject to change based on resolutions of the 2021 shareholders' meeting.

Note 2: The company listed on the TWSE or traded on the TPEX shall include in its analysis the updated financial data which are audited or reviewed by a CPA for the most recent period up to the publication date of the annual report: None.

Condensed Statements of Comprehensive Income

Condensed Statements of Comprehensive Income-Consolidated

In Thousand NTD

Item	2020	2019	2018	2017	2016
Operating revenues	176,820,914	148,201,641	151,252,571	149,284,706	147,870,124
Gross profit	38,997,101	21,314,972	22,840,027	27,057,758	30,379,430
Operating income	22,007,407	4,689,850	5,797,232	6,568,321	6,193,576
Non-operating income and expenses	5,918,772	1,045,787	(3,612,833)	1,230,101	(1,346,938)
Income from continuing operations before income tax	27,926,179	5,735,637	2,184,399	7,798,422	4,846,638
Net income	27,180,412	6,128,767	2,643,052	6,631,265	3,863,075
Other comprehensive income (loss), net of tax	4,685,534	3,408,785	949,944	(4,034,355)	(4,364,780)
Total comprehensive income (loss)	31,865,946	9,537,552	3,592,996	2,596,910	(501,705)
Net income attributable to stockholders of the parent	29,189,489	9,707,614	7,072,990	9,628,734	8,315,660
Net income attributable to non-controlling interests	(2,009,077)	(3,578,847)	(4,429,938)	(2,997,469)	(4,452,585)
Comprehensive income attributable to stockholders of the parent	33,748,370	13,131,612	8,126,828	5,705,980	3,983,198
Comprehensive income attributable to non-controlling interests	(1,882,424)	(3,594,060)	(4,533,832)	(3,109,070)	(4,484,903)
Earnings per share (NTD)	2.42	0.82	0.58	0.79	0.68

Note 1: EPS was calculated based on weighted average number of shares outstanding for the period.

Note 2: The company listed on the TWSE or traded on the TPEX shall include in its analysis the updated financial data which are audited or reviewed by a CPA for the most recent period up to the publication date of the annual report: None.

Condensed Statements of Comprehensive Income-Parent Company

In Thousand NTD

Item	2020	2019	2018	2017	2016
Operating revenues	135,280,403	123,622,436	132,834,602	132,179,198	135,592,136
Gross profit	39,052,266	27,161,230	30,548,191	29,718,771	28,358,887
Operating income	23,459,030	10,281,974	12,790,237	11,538,896	9,605,769
Non-operating income and expenses	6,375,642	(1,148,875)	(6,581,581)	(1,114,125)	(594,179)
Income from continuing operations before income tax	29,834,672	9,133,099	6,208,656	10,424,771	9,011,590
Net income	29,189,489	9,707,614	7,072,990	9,628,734	8,315,660
Other comprehensive income (loss), net of tax	4,558,881	3,423,998	1,053,838	(3,922,754)	(4,332,462)
Total comprehensive income	33,748,370	13,131,612	8,126,828	5,705,980	3,983,198
Earnings per share (NTD)	2.42	0.82	0.58	0.79	0.68

Note 1: EPS was calculated based on weighted average number of shares outstanding for the period.

Note 2: The company listed on the TWSE or traded on the TPEX shall include in its analysis the updated financial data which are audited or reviewed by a CPA for the most recent period up to the publication date of the annual report: None.

Auditors' Opinions from 2016 to 2020

Year	CPA	Audit Opinion
2016	Shao-Pin Kuo, Meng-Lin Song	Unqualified Opinion with Emphasis of Matter Paragraphs or Other Matter Paragraphs
2017	Shao-Pin Kuo, Wan-Ju Chiu	Unqualified Opinion with Emphasis of Matter Paragraphs or Other Matter Paragraphs
2018	Wan-Ju Chiu, Hsin-Min Hsu	Unqualified Opinion with Emphasis of Matter Paragraphs or Other Matter Paragraphs
2019	Wan-Ju Chiu, Hsin-Min Hsu	Unqualified Opinion with Emphasis of Matter Paragraphs or Other Matter Paragraphs
2020	Wan-Ju Chiu, Hsin-Min Hsu	Unqualified Opinion with Emphasis of Matter Paragraphs or Other Matter Paragraphs

Financial Analysis

Financial Analysis- Consolidated

Item	2020	2019	2018	2017	2016	
Capital structure	Debt ratio (%)	37.55	44.02	43.35	45.69	43.43
	Long-term funds to property, plant and equipment (%)	196.23	169.65	158.30	129.95	124.22
Liquidity	Current ratio (%)	209.99	211.45	282.96	158.03	153.48
	Quick ratio (%)	177.36	172.13	222.80	121.72	114.73
	Times interest earned (times)	14.93	2.96	1.79	4.24	4.33
Operating performance	Average receivables turnover (times)	6.67	5.98	6.75	6.78	6.98
	Days sales outstanding	55	61	54	54	52
	Average inventory turnover (times)	6.23	6.36	7.04	6.93	6.78
	Average payables turnover (times)	16.47	16.19	19.26	18.26	18.34
	Average inventory turnover days	59	57	52	53	54
	Property, plant and equipment turnover (times)	1.25	0.92	0.80	0.69	0.72
	Total assets turnover (times)	0.47	0.40	0.40	0.38	0.41
Profitability	Return on assets (%)	7.70	2.31	1.28	2.21	1.35
	Return on stockholders' equity attributable to the parent company (%)	13.19	4.70	3.37	4.48	3.75
	Pre-tax income to paid-in capital (%)	24.10	7.92	5.32	8.54	7.35
	Net profit margin (%)	15.37	4.14	1.75	4.44	2.61
	Earnings per share (NTD)	2.42	0.82	0.58	0.79	0.68
Cash Flow	Cash flow ratio (%)	84.03	75.51	102.08	59.59	64.53
	Cash flow adequacy ratio (%)	111.10	96.56	86.78	81.49	75.74
	Cash flow reinvestment ratio (%)	5.12	4.54	4.03	4.68	4.11
Leverage	Operating leverage	5.98	23.16	19.11	16.86	17.77
	Financial leverage	1.10	2.67	1.91	1.58	1.25

Analysis of changes over 20% from 2019 to 2020:

1. Times interest earned: Due to increase in income before interest and tax.
2. Property, plant and equipment turnover: Due to increase in net sales.
3. Return on assets, Net profit margin: Due to increase in net income.
4. Return on stockholders' equity attributable to the parent company, Earnings per share: Due to increase in net income attributable to stockholders of the parent company.
5. Pre-tax income to paid-in capital: Due to increase in income before tax attributable to stockholders of the parent company.
6. Operating leverage, Financial leverage: Due to increase in operating income.

Financial Analysis (Continue)

Note 1: The calculation of EPS was based on weighted average number of shares outstanding for the year.

Note 2: The calculation formulas of financial analysis are listed as follows:

1. Capital structure

(1) Debt ratio = total liabilities / total assets

(2) Long-term funds to property, plant and equipment = (total equity + bonds payable + long-term loans) / property, plant and equipment

2. Liquidity

(1) Current ratio = current assets / current liabilities

(2) Quick ratio = (current assets – inventory – prepaid expenses – non-current assets held for sale – other current assets) / current liabilities

(3) Times interest earned = income before interest and tax / interest expenses

3. Operating performance

(1) Average receivables (including accounts receivable and notes receivable arising from business operations) turnover = net sales / average receivables (including accounts receivable and notes receivable arising from business operations) for each period

(2) Days sales outstanding = 365 / average receivables turnover

(3) Average inventory turnover = cost of sales / average inventory

(4) Average payables (including accounts payable and notes payable arising from business operations) turnover = cost of sales / average payables (including accounts payable and notes payable arising from business operations) for each period

(5) Average inventory turnover days = 365 / average inventory turnover

(6) Property, plant and equipment turnover = net sales / average property, plant and equipment

(7) Total assets turnover = net sales / average total assets

4. Profitability

(1) Return on assets = [net income + interest expenses x (1- tax rate)] / average total assets

(2) Return on stockholders' equity attributable to the parent company = net income attributable to stockholders of the parent / average total equity attributable to the parent company

(3) Pre-tax income to paid-in capital = income before tax attributable to stockholders of the parent / paid-in capital

(4) Net profit margin = net income / net sales

(5) Earnings per share = (net income attributable to stockholders of the parent – preferred shares dividends) / weighted average number of outstanding shares

5. Cash flow

(1) Cash flow ratio = net cash provided by operating activities / current liabilities

(2) Cash flow adequacy ratio = five-year sum of net cash provided by operating activities / five-year sum of capital expenditures, inventory increase and cash dividend

(3) Cash flow reinvestment ratio = (net cash provided by operating activities – cash dividend) / (gross property, plant and equipment + long-term investments + other non-current assets + working capital)

6. Leverage

(1) Operating leverage = (operating revenues – variable operating costs and expenses) / operating income

(2) Financial leverage = operating income / (operating income – interest expenses)

Note 3: The company listed on the TWSE or traded on the TPEX shall include in its analysis the updated financial data which are audited or reviewed by a CPA for the most recent period up to the publication date of the annual report: None.

Financial Analysis (Continue)

Financial Analysis- Parent Company

Item	2020	2019	2018	2017	2016	
Capital structure	Debt ratio (%)	26.10	31.69	31.12	33.82	33.78
	Long-term funds to property, plant and equipment (%)	389.93	288.59	242.91	186.51	160.90
Liquidity	Current ratio (%)	415.12	246.47	378.16	181.87	174.18
	Quick ratio (%)	352.97	204.33	313.86	150.22	139.84
	Times interest earned (times)	54.08	12.16	9.14	12.13	11.00
Operating performance	Average receivables turnover (times)	6.80	5.95	6.02	5.69	6.50
	Days sales outstanding	54	61	61	64	56
	Average inventory turnover (times)	5.81	6.12	6.73	6.90	7.00
	Average payables turnover (times)	16.70	16.41	18.60	18.47	19.18
	Average inventory turnover days	63	60	54	53	52
	Property, plant and equipment turnover (times)	1.85	1.37	1.16	0.93	0.83
	Total assets turnover (times)	0.44	0.41	0.43	0.41	0.42
Profitability	Return on assets (%)	9.54	3.44	2.47	3.21	2.73
	Return on equity (%)	13.19	4.70	3.37	4.48	3.75
	Pre-tax income to paid-in capital (%)	24.02	7.77	5.00	8.26	7.14
	Net profit margin (%)	21.58	7.85	5.32	7.28	6.13
	Earnings per share (NTD)	2.42	0.82	0.58	0.79	0.68
Cash Flow	Cash flow ratio (%)	176.05	106.12	182.12	102.75	119.78
	Cash flow adequacy ratio (%)	189.18	155.16	135.24	121.08	97.08
	Cash flow reinvestment ratio (%)	4.18	4.09	4.20	5.95	5.56
Leverage	Operating leverage	4.29	8.88	7.82	8.70	10.55
	Financial leverage	1.02	1.09	1.06	1.09	1.08

Analysis of change over 20% from 2019 to 2020:

1. Long-term funds to property, plant and equipment, Times interest earned, Return on assets, Return on equity, Pre-tax income to paid-in capital, Net profit margin and Earnings per share: Due to increase in income before tax and net income.
2. Current ratio, Quick ratio and Cash flow ratio: Due to decrease in current portion of long-term liabilities.
3. Property, plant and equipment turnover: Due to decrease in property, plant and equipment.
4. Cash flow adequacy ratio: Due to decrease in the last 5 years capital expenditure.
5. Operating leverage: Due to increase in operating income.

Financial Analysis (Continue)

Note 1: The calculation of EPS was based on weighted average number of shares outstanding for the year.

Note 2: The calculation formulas of financial analysis are listed as follows:

1. Capital structure

(1) Debt ratio = total liabilities / total assets

(2) Long-term funds to property, plant and equipment = (total equity + bonds payable + long-term loans) / property, plant and equipment

2. Liquidity

(1) Current ratio = current assets / current liabilities

(2) Quick ratio = (current assets – inventory – prepaid expenses – non-current assets held for sale – other current assets) / current liabilities

(3) Times interest earned = income before interest and tax / interest expenses

3. Operating performance

(1) Average receivables (including accounts receivable and notes receivable arising from business operations) turnover = net sales / average receivables (including accounts receivable and notes receivable arising from business operations) for each period

(2) Days sales outstanding = 365 / average receivables turnover

(3) Average inventory turnover = cost of sales / average inventory

(4) Average payables (including accounts payable and notes payable arising from business operations) turnover = cost of sales / average payables (including accounts payable and notes payable arising from business operations) for each period

(5) Average inventory turnover days = 365 / average inventory turnover

(6) Property, plant and equipment turnover = net sales / average property, plant and equipment

(7) Total assets turnover = net sales / average total assets

4. Profitability

(1) Return on assets = [net income + interest expenses x (1- tax rate)] / average total assets

(2) Return on equity = net income / average total equity

(3) Pre-tax income to paid-in capital = income before tax / paid-in capital

(4) Net profit margin = net income / net sales

(5) Earnings per share = (net income – preferred shares dividends) / weighted average number of outstanding shares

5. Cash flow

(1) Cash flow ratio = net cash provided by operating activities / current liabilities

(2) Cash flow adequacy ratio = five-year sum of net cash provided by operating activities / five-year sum of capital expenditures, inventory increase and cash dividend

(3) Cash flow reinvestment ratio = (net cash provided by operating activities – cash dividend) / (gross property, plant and equipment + long-term investments + other non-current assets + working capital)

6. Leverage

(1) Operating leverage = (operating revenues – variable operating costs and expenses) / operating income

(2) Financial leverage = operating income / (operating income – interest expenses)

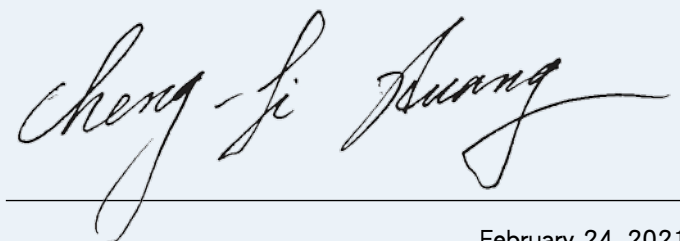
Note 3: The company listed on the TWSE or traded on the TPEX shall include in its analysis the updated financial data which are audited or reviewed by a CPA for the most recent period up to the publication date of the annual report: None.

Audit Committee's Review Report

The Board of Directors has prepared and submitted to us the Company's 2020 Business Report, Financial Statements, and proposal for earnings distribution. Financial Statements were audited by Ernst & Young and they issued an audited report accordingly. We, as the Audit Committee of the Company, have reviewed the Business Report, Financial Statements, and proposal for earnings distribution and do not find any discrepancies. According to Article 14-4 of the Securities and Exchange Act and Article 219 of the Company Act, we hereby submit this report.

To United Microelectronics Corporation 2021 Annual General Shareholders' Meeting

Chairman of the Audit Committee: Cheng-Li Huang

A handwritten signature in black ink, reading "Cheng-Li Huang", written over a horizontal line.

February 24, 2021

Independent Auditors' Report

To United Microelectronics Corporation

Opinion

We have audited the accompanying consolidated balance sheets of United Microelectronics Corporation and its subsidiaries (the "Company") as of December 31, 2020 and 2019, and the related consolidated statements of comprehensive income, changes in equity and cash flows for the years ended December 31, 2020 and 2019, and notes to the consolidated financial statements, including the summary of significant accounting policies (together "the consolidated financial statements").

In our opinion, based on our audits and the reports of other auditors (please refer to the *Other Matter – Making Reference to the Audits of Component Auditors* section of our report), the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2020 and 2019, and their consolidated financial performance and cash flows for the years ended December 31, 2020 and 2019, in conformity with the requirements of the Regulations Governing the Preparation of Financial Reports by Securities Issuers and International Financial Reporting Standards, International Accounting Standards, Interpretations developed by the International Financial Reporting Interpretations Committee or the former Standing Interpretations Committee as endorsed and became effective by Financial Supervisory Commission of the Republic of China.

Basis for Opinion

We conducted our audits in accordance with the Regulations Governing Auditing and Attestation of Financial Statements by Certified Public Accountants and auditing standards generally accepted in the Republic of China. Our responsibilities under those standards are further described in the *Auditors' Responsibilities for the Audit of the Consolidated Financial Statements* section of our report. We are independent of the Company in accordance with the Norm of Professional Ethics for Certified Public Accountant of the Republic of China (the "Norm"), and we have fulfilled our other ethical responsibilities in accordance with the Norm. Based on our audits and the reports of other auditors, we believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of 2020 consolidated financial statements. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

**UNITED MICROELECTRONICS CORPORATION
AND SUBSIDIARIES
CONSOLIDATED FINANCIAL STATEMENTS
WITH REPORT OF INDEPENDENT AUDITORS
FOR THE YEARS ENDED
DECEMBER 31, 2020 AND 2019**

Address: No. 3 Li-Hsin Road II, Hsinchu Science Park, Hsinchu City, Taiwan, R.O.C.
Telephone: 886-3-578-2258

The reader is advised that these consolidated financial statements have been prepared originally in Chinese. In the event of a conflict between these financial statements and the original Chinese version or difference in interpretation between the two versions, the Chinese language financial statements shall prevail.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with the requirements of the Regulations Governing the Preparation of Financial Reports by Securities Issuers and International Financial Reporting Standards, International Accounting Standards, Interpretations developed by the International Financial Reporting Interpretations Committee or the former Standing Interpretations Committee as endorsed and became effective by Financial Supervisory Commission of the Republic of China and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the ability to continue as a going concern of the Company, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance, including audit committee or supervisors, are responsible for overseeing the financial reporting process of the Company.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with auditing standards generally accepted in the Republic of China will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with auditing standards generally accepted in the Republic of China, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

1. Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

Valuation for slow-moving inventories

As of December 31, 2020, the Company's net inventories amounted to NT\$22,552 million. As the semiconductor industry is characterized by rapid changes in technology, management had to evaluate and estimate a reserve for slow-moving inventories that are expected to be written-off or otherwise disposed of at a future date. Auditing the valuation for slow-moving inventories was complex due to the judgmental nature of the Company's estimation of the appropriate amount of the slow-moving inventories reserve, utilizing key inputs including historical usage, write-off activities and inventory aging. Therefore, we consider this is a key audit matter.

We obtained an understanding, evaluated the design and tested the operating effectiveness of internal controls over the Company's slow-moving inventories reserve process. For example, we tested the control over management's review of the reserve method and the key inputs used in the valuation process. To test the slow-moving inventories reserve, our audit procedures included, amongst others, evaluate the appropriateness of management's methodology to determine inventory aging and inventory reserve percentages, compare slow-moving inventories reserve to historical usage and write-off activities and test the accuracy and completeness of the underlying data used in such determination. We also recalculated inventory reserve for the application of the reserve percentages to the inventory aging categories.

In addition, we evaluated the adequacy of disclosures of inventories. Please refer to Notes 5 and 6 to the Company's consolidated financial statements.

Other Matter – Making Reference to the Audits of Component Auditors

We did not audit the financial statements of certain associates and joint ventures accounted for under the equity method. Those financial statements were audited by other auditors, whose reports thereon have been furnished to us, and our opinions expressed herein are based solely on the reports of other auditors. These associates and joint ventures under equity method amounted to NT\$29,507 million and NT\$11,704 million, representing 7.82% and 3.16% of consolidated total assets as of December 31, 2020 and 2019, respectively. The related shares of profits from the associates and joint ventures under the equity method amounted to NT\$6,686 million and NT\$1,231 million, representing 23.94% and 21.46% of the consolidated income before tax for the years ended December 31, 2020 and 2019, respectively, and the related shares of other comprehensive income from the associates and joint ventures under the equity method amounted to NT\$2,716 million and NT\$1,184 million, representing 8.52% and 12.41% of the consolidated total comprehensive income for the years ended December 31, 2020 and 2019, respectively.

2. Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal control of the Company.

3. Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

4. Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the ability to continue as a going concern of the Company. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.

5. Evaluate the overall presentation, structure and content of the consolidated financial statements, including the accompanying notes, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

6. Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Company to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of 2020 consolidated financial statements and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Other

We have audited and expressed an unqualified opinion including an Other Matter Paragraph on the parent company only financial statements of the Company as of and for the years ended December 31, 2020 and 2019.

/s/Chiu, Wan-Ju

/s/Hsu, Hsin-Min

Ernst & Young, Taiwan

February 24, 2021

Notice to Readers

The accompanying consolidated financial statements are intended only to present the consolidated financial position, results of operations and cash flows in accordance with accounting principles and practices generally accepted in the Republic of China and not those of any other jurisdictions. The standards, procedures and practices to audit such consolidated financial statements are those generally accepted and applied in the Republic of China.

Accordingly, the accompanying consolidated financial statements and report of independent auditors are not intended for use by those who are not informed about the accounting principles or auditing standards generally accepted in the Republic of China, and their applications in practice.

English Translation of Consolidated Financial Statements Originally Issued in Chinese
UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

December 31, 2020 and 2019

(Expressed in Thousands of New Taiwan Dollars)

	Notes	As of December 31,	
		2020	2019
Assets			
Current assets			
Cash and cash equivalents	4,6(1)	\$ 94,048,036	\$ 95,492,477
Financial assets at fair value through profit or loss, current	4, 5, 6(2)	1,216,634	722,794
Contract assets, current	4, 6(20)	257,841	214,243
Notes receivable	4	-	98
Accounts receivable, net	4, 6(3)	27,094,355	25,438,703
Accounts receivable-related parties, net	4, 7	178,918	289,945
Other receivables	4	1,668,874	654,466
Current tax assets	4	37,598	26,220
Inventories, net	4, 5, 6(4)	22,552,486	21,714,802
Prepayments		2,324,838	6,290,518
Other current assets	6(7), 6(20)	14,926,331	2,912,875
Total current assets		164,305,911	153,757,141
Non-current assets			
Financial assets at fair value through profit or loss, noncurrent	4, 5, 6(2), 7	14,826,087	13,298,679
Financial assets at fair value through other comprehensive income, noncurrent	4, 5, 6(5)	10,526,144	14,723,232
Investments accounted for under the equity method	4, 6(6), 7	31,225,677	13,322,143
Property, plant and equipment	4, 5, 6(8), 8	132,774,663	150,374,096
Right-of-use assets	4, 6(9), 8	7,748,042	8,291,517
Intangible assets	4, 6(10), 7	4,877,913	5,198,247
Deferred tax assets	4, 5, 6(25)	6,832,711	7,807,583
Prepayment for equipment		586,333	217,906
Refundable deposits		2,310,961	2,600,733
Other noncurrent assets-others	8	1,501,933	596,088
Total non-current assets		213,210,464	216,430,224
Total assets		\$ 377,516,375	\$ 370,187,365

(continued)

English Translation of Consolidated Financial Statements Originally Issued in Chinese
 UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES
 CONSOLIDATED BALANCE SHEETS
 December 31, 2020 and 2019
 (Expressed in Thousands of New Taiwan Dollars)

	As of December 31,	
	2020	2019
Liabilities and Equity		
Current liabilities		
Short-term loans		12,015,206
Financial liabilities at fair value through profit or loss, current		-
Contract liabilities, current	2,326	988,115
Notes and accounts payable	2,040,989	8,877,065
Other payables	7,862,137	15,235,384
Payables on equipment	17,877,736	3,031,184
Current tax liabilities	5,448,921	939,207
Lease liabilities, current	1,050,965	569,957
Current portion of long-term liabilities	550,147	24,795,600
Other current liabilities	26,985,078	6,262,604
Total current liabilities	78,243,526	72,714,322
Non-current liabilities		
Contract liabilities, noncurrent	456,480	482,080
Bonds payable	16,690,474	18,687,591
Long-term loans	8,080,938	29,200,299
Deferred tax liabilities	1,631,459	2,087,366
Lease liabilities, noncurrent	5,026,717	5,461,068
Net defined benefit liabilities, noncurrent	4,162,654	4,025,373
Guarantee deposits	235,199	196,110
Other noncurrent liabilities-others	27,215,826	30,118,734
Total non-current liabilities	63,499,747	90,258,621
Total liabilities	141,743,273	162,972,943
Equity attributable to the parent company		
Capital		
Common stock	124,224,015	117,243,187
Capital collected in advance	-	332,611
Additional paid-in capital		
Premiums	36,809,962	34,404,110
Treasury stock transactions	3,340,664	2,744,391
The differences between the fair value of the consideration paid or received from acquiring or disposing subsidiaries and the carrying amounts of the subsidiaries	466,457	573,336
Recognition of changes in subsidiaries' ownership	-	1,218
Share of changes in net assets of associates and joint ventures accounted for using equity method	93,880	123,268
Employee stock options	88,504	214,455
Stock options	-	1,476,405
Restricted stock for employees	2,170,666	-
Other	241,081	13,211
Retained earnings		
Legal reserve	12,536,526	11,572,579
Special reserve	11,022,314	14,513,940
Unappropriated earnings	56,617,520	34,733,761
Other components of equity		
Exchange differences on translation of foreign operations	(11,890,876)	(8,948,337)
Unrealized gains or losses on financial assets measured at fair value through other comprehensive income	3,726,229	(2,073,977)
Unearned employee compensation	(3,667,395)	-
Treasury stock	(119,801)	(119,801)
Total equity attributable to the parent company	235,659,746	206,804,357
Non-controlling interests	113,356	410,065
Total equity	235,773,102	207,214,422
Total liabilities and equity	\$ 377,516,375	\$ 370,187,365

The accompanying notes are an integral part of the consolidated financial statements.

English Translation of Consolidated Financial Statements Originally Issued in Chinese

UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

For the years ended December 31, 2020 and 2019

(Expressed in Thousands of New Taiwan Dollars, Except for Earnings per Share)

	Notes	For the years ended December 31,	
		2020	2019
Operating revenues	4,6(20), 7, 14	\$ 176,820,914	\$ 148,201,641
Operating costs	4, 6(4), 6(10), 6(15), 6(19), 6(20), 6(21), 7, 14	(137,823,813)	(126,886,669)
Gross profit		38,997,101	21,314,972
Operating expenses	4, 6(3), 6(10), 6(15), 6(19), 6(21), 7, 14		
Sales and marketing expenses		(4,152,242)	(3,807,610)
General and administrative expenses		(6,664,166)	(5,436,091)
Research and development expenses		(12,895,501)	(11,860,244)
Expected credit impairment gains (losses)		468,325	(703,339)
Subtotal		(23,243,584)	(21,807,284)
Net other operating income and expenses	4, 6(8), 6(16), 6(22), 14	6,253,890	5,182,162
Operating income		22,007,407	4,689,850
Non-operating income and expenses			
Interest income	4	737,913	994,061
Other income	4	698,155	711,614
Other gains and losses	4, 6(23), 9(6)	(11,674)	1,257,299
Finance costs	6(23)	(2,073,433)	(2,997,643)
Share of profit or loss of associates and joint ventures	4, 6(6), 14	6,667,952	1,147,495
Bargain purchase gain	4, 6(28)	-	171,585
Exchange loss, net	4, 12	(100,141)	(238,624)
Subtotal		5,918,772	1,045,787
Income from continuing operations before income tax		27,926,179	5,735,637
Income tax (expense) benefit	4, 5, 6(25), 14	(745,767)	393,130
Net income		27,180,412	6,128,767
Other comprehensive income (loss)	6(24)		
Items that will not be reclassified subsequently to profit or loss			
Remeasurements of defined benefit pension plans	4, 5, 6(15)	(192,581)	106,403
Unrealized gains or losses from equity instruments investments measured at fair value through other comprehensive income		4,815,361	5,486,209
Share of other comprehensive income (loss) of associates and joint ventures which will not be reclassified subsequently to profit or loss		2,824,216	1,231,722
Income tax related to items that will not be reclassified subsequently	4, 5, 6(25)	54,424	(158,260)
Items that may be reclassified subsequently to profit or loss			
Exchange differences on translation of foreign operations		(2,920,280)	(3,277,938)
Share of other comprehensive income (loss) of associates and joint ventures which may be reclassified subsequently to profit or loss		60,221	15,348
Income tax related to items that may be reclassified subsequently	4, 5, 6(25)	44,173	5,301
Total other comprehensive income, net of tax		4,685,534	3,408,785
Total comprehensive income		\$ 31,865,946	\$ 9,537,552
Net income (loss) attributable to:			
Stockholders of the parent		\$ 29,189,489	\$ 9,707,614
Non-controlling interests		(2,009,077)	(3,578,847)
		\$ 27,180,412	\$ 6,128,767
Comprehensive income (loss) attributable to:			
Stockholders of the parent		\$ 33,748,370	\$ 13,131,612
Non-controlling interests		(1,882,424)	(3,594,060)
		\$ 31,865,946	\$ 9,537,552
Earnings per share (NTD)	4, 6(26)		
Earnings per share-basic		\$ 2.42	\$ 0.82
Earnings per share-diluted		\$ 2.35	\$ 0.76

The accompanying notes are an integral part of the consolidated financial statements.

English Translation of Consolidated Financial Statements Originally Issued in Chinese
 UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES
 CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
 For the years ended December 31, 2020 and 2019
 (Expressed in Thousands of New Taiwan Dollars)

	Equity Attributable to the Parent Company											Total Equity	
	Capital		Retained Earnings			Other Components of Equity							
	Common Stock	Collected in Advance	Additional Paid-in Capital	Legal Reserve	Special Reserve	Unappropriated Earnings	Exchange Differences on Translation of Foreign Operations	Unrealized Gains or Losses on Financial Assets Measured at Fair Value through Other Comprehensive Income	Gains or Losses on Hedging Instruments	Employee Compensation	Treasury Stock	Total	Non-controlling Interests
Notes													
6(18)	\$ 124,243,187	\$ -	\$ 40,388,936	\$ 10,865,280	\$ -	\$ 50,723,263	\$ (5,706,261)	\$ (8,819,556)	\$ (2,658)	\$ -	\$ (5,647,430)	\$ 206,045,361	\$ 466,768
6(18)	-	-	-	707,299	-	(707,299)	-	-	-	-	-	-	-
				Special reserve	14,513,940	(14,513,940)	-	-	-	-	-	-	-
				Cash dividends	(6,916,105)	(6,916,105)	-	-	-	-	-	(6,916,105)	-
6(18)	-	-	-	Net income (loss) for the year ended December 31, 2019	9,707,614	9,707,614	-	-	-	-	-	9,707,614	(3,578,847)
6(18), 6(24)	-	-	-	Other comprehensive income (loss) for the year ended December 31, 2019	84,744	(3,242,076)	6,581,330	-	-	-	-	3,423,998	(15,213)
				Total comprehensive income (loss)	9,792,358	(3,242,076)	6,581,330	-	-	-	-	13,131,612	(3,594,060)
4, 6(19)	-	-	377,004	Legal reserve	-	-	-	-	-	-	-	377,004	-
4, 6(13), 6(18)	-	332,611	130,804	Special reserve	-	-	-	-	-	-	-	463,415	-
4, 6(18)	-	-	-	Share-based payment transaction	-	-	-	-	-	(2,859,498)	-	(2,859,498)	-
4, 6(18)	(7,000,000)	-	(1,387,127)	Conversion of convertible bonds	-	-	-	-	-	8,387,127	-	8,387,127	-
				Treasury stock cancelled	-	-	-	-	-	-	-	-	-
				Share of changes in net assets of associates and joint ventures accounted for using equity method	-	-	14,655	-	-	-	-	14,655	-
4, 6(18)	-	-	1,179	Changes in subsidiaries' ownership	-	-	(22,280)	-	-	-	-	(21,101)	24,740
6(18)	-	-	9,485	Adjustments for dividends/subsidiaries received from parent company	-	-	-	-	-	-	-	9,485	-
6(5), 6(28)	-	-	(551,903)	Disposal of equity instruments investments measured at fair value through other comprehensive income	-	-	(551,903)	-	-	-	-	-	-
6(18)	-	-	15,458	Others	-	-	(3,457,987)	-	2,658	-	-	(3,440,471)	3,512,617
6(18)	117,243,187	332,611	39,550,394	Balance as of December 31, 2019	11,572,579	14,513,940	34,733,761	(8,948,337)	-	(119,801)	-	206,804,357	410,065
6(18)	-	-	-	Appropriation and distribution of 2019 retained earnings	-	-	-	-	-	-	-	-	-
				Legal reserve	963,947	-	(963,947)	-	-	-	-	-	-
				Cash dividends	(3,491,626)	-	(3,491,626)	-	-	-	-	(9,765,155)	-
				Special reserve reversed	-	-	(9,765,155)	-	-	-	-	(9,765,155)	-
6(18)	-	-	-	Net income (loss) for the year ended December 31, 2020	29,189,489	29,189,489	-	-	-	-	-	29,189,489	(2,009,077)
6(18), 6(24)	-	-	-	Other comprehensive income (loss) for the year ended December 31, 2020	(157,529)	(2,942,539)	7,658,949	-	-	-	-	4,558,881	126,653
				Total comprehensive income (loss)	29,031,960	(2,942,539)	7,658,949	-	-	-	-	33,748,370	(1,882,424)
4, 6(19)	2,000,300	-	2,628,061	Share-based payment transaction	-	-	-	-	-	1,678,272	-	2,639,238	-
4, 6(13), 6(18)	4,980,528	(332,611)	1,862,366	Conversion of convertible bonds	-	-	-	-	-	-	-	6,510,283	-
4, 6(18)	-	-	-	Treasury stock acquired	-	-	-	-	-	(1,678,272)	-	(1,678,272)	-
				Share of changes in net assets of associates and joint ventures accounted for using equity method	-	-	33,378	-	-	-	-	(29,388)	-
6(29)	-	-	(106,879)	Disposal of subsidiaries	-	-	-	-	-	-	-	(51,565)	106,879
6(18)	-	-	-	The differences between the fair value of the consideration paid or received from acquiring or disposing subsidiaries and the carrying amounts of the subsidiaries	-	-	-	-	-	-	-	(817,850)	(10,331)
4, 6(18)	-	-	(1,218)	Changes in subsidiaries' ownership	-	-	(816,632)	-	-	-	-	(817,850)	(10,331)
6(5)	-	-	12,927	Adjustments for dividends/subsidiaries received from parent company	-	-	-	-	-	-	-	12,927	-
6(18)	-	-	1,825,365	Disposal of equity instruments investments measured at fair value through other comprehensive income	-	-	(1,825,365)	-	-	-	-	-	-
6(18)	-	-	(705,049)	Non-controlling interests	-	-	-	-	-	-	-	(551,608)	(551,608)
6(18)	-	-	-	Others	-	-	(952,836)	-	-	-	-	(1,657,885)	2,092,540
6(18)	\$ 124,242,401.5	\$ -	\$ 43,211,214	Balance as of December 31, 2020	\$ 12,536,526	\$ 11,022,314	\$ 56,617,520	\$ (11,890,876)	\$ -	\$ (3,667,295)	\$ (119,801)	\$ 235,659,746	\$ 113,356

The accompanying notes are an integral part of the consolidated financial statements.

English Translation of Consolidated Financial Statements Originally Issued in Chinese

UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

For the years ended December 31, 2020 and 2019

(Expressed in Thousands of New Taiwan Dollars)

	For the years ended December 31,	
	2020	2019
Cash flows from operating activities:		
Net income before tax	\$ 27,926,179	\$ 5,735,637
Adjustments to reconcile net income before tax to net cash provided by operating activities:		
Depreciation	46,163,693	47,172,881
Amortization	2,744,383	2,216,654
Expected credit impairment (gains) losses	(468,325)	703,339
Net gain of financial assets and liabilities at fair value through profit or loss	(2,011,403)	(1,279,931)
Interest expense	2,004,418	2,933,815
Interest income	(737,913)	(994,061)
Dividend income	(698,155)	(711,614)
Share-based payment	959,219	366,186
Share of profit of associates and joint ventures	(6,667,952)	(1,147,495)
Gain on disposal of property, plant and equipment	(1,137,320)	(43,036)
Loss on disposal of investments	60,940	16,293
Impairment loss on non-financial assets	-	118,134
Exchange (gain) loss on financial assets and liabilities	(1,386,657)	206,612
Bargain purchase gain	-	(171,585)
Gain on lease modification	(1,765)	-
Amortization of deferred government grants	(3,994,818)	(4,062,148)
Income and expense adjustments	34,828,345	45,324,044
Changes in operating assets and liabilities:		
Financial assets and liabilities at fair value through profit or loss	876,876	(594,847)
Contract assets	(49,108)	(126,340)
Notes receivable and accounts receivable	(1,501,100)	439,400
Other receivables	(224,488)	67,347
Inventories	(1,014,039)	(1,370,249)
Prepayments	3,053,557	5,833,773
Other current assets	(71,573)	(64,732)
Contract fulfillment costs	4,200	8,054
Contract liabilities	1,072,225	69,329
Notes and accounts payable	(944,909)	(739,066)
Other payables	2,338,043	514,686
Other current liabilities	(593,710)	819,746
Net defined benefit liabilities	(55,300)	(35,398)
Other noncurrent liabilities-others	53,743	(3,240)
Cash generated from operations	65,698,941	55,878,144
Interest received	758,235	973,241
Dividend received	1,041,972	818,691
Interest paid	(1,735,327)	(2,147,320)
Income tax paid	(18,629)	(618,608)
Net cash provided by operating activities	65,745,192	54,904,148

(continued)

English Translation of Consolidated Financial Statements Originally Issued in Chinese

UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

For the years ended December 31, 2020 and 2019

(Expressed in Thousands of New Taiwan Dollars)

	For the years ended December 31,	
	2020	2019
Cash flows from investing activities:		
Acquisition of financial assets at fair value through profit or loss	\$ (1,118,572)	\$ (354,249)
Proceeds from disposal of financial assets at fair value through profit or loss	326,127	229,553
Proceeds from disposal of financial assets at fair value through other comprehensive income or loss	-	44,466
Acquisition of investments accounted for under the equity method	(59,900)	(730,000)
Proceeds from disposal of investments accounted for under the equity method	30,611	5,970
Increase in prepayment for investments	-	(17,974)
Proceeds from capital reduction and liquidation of investments	27,200	32,214
Acquisition of subsidiary (net of cash acquired)	-	(12,800,981)
Disposal of subsidiary	(785,772)	32,017
Acquisition of property, plant and equipment	(26,345,302)	(16,518,483)
Proceeds from disposal of property, plant and equipment	1,737,125	45,042
Increase in refundable deposits	(160,254)	(257,909)
Decrease in refundable deposits	448,893	441,013
Acquisition of intangible assets	(2,009,031)	(2,443,593)
Government grants related to assets acquisition	242,264	617,685
Increase in other financial assets	(18,422,183)	-
Decrease in other financial assets	5,984,342	-
Increase in other noncurrent assets-others	(7,049)	(15,074)
Decrease in other noncurrent assets-others	-	8,786
Net cash used in investing activities	(40,111,501)	(31,681,517)
Cash flows from financing activities:		
Increase in short-term loans	16,271,732	25,732,933
Decrease in short-term loans	(17,205,124)	(26,726,656)
Cash payments for the principal portion of the lease liability	(726,626)	(633,488)
Redemption of bonds	(13,702,875)	(2,500,000)
Proceeds from long-term loans	13,528,900	11,449,930
Repayments of long-term loans	(13,391,980)	(7,572,939)
Increase in guarantee deposits	303,720	269,415
Decrease in guarantee deposits	(363,539)	(17,146)
Cash dividends	(9,765,694)	(6,911,058)
Treasury stock acquired	(1,678,272)	(2,972,243)
Treasury stock sold to employees	1,677,900	-
Change in non-controlling interests	(551,608)	3,388
Others	2,120	10,818
Net cash used in financing activities	(25,601,346)	(9,867,046)
Effect of exchange rate changes on cash and cash equivalents	(1,476,786)	(1,524,847)
Net (decrease) increase in cash and cash equivalents	(1,444,441)	11,830,738
Cash and cash equivalents at beginning of year	95,492,477	83,661,739
Cash and cash equivalents at end of year	\$ 94,048,036	\$ 95,492,477

The accompanying notes are an integral part of the consolidated financial statements.

UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

For the Years Ended December 31, 2020 and 2019

(Expressed in Thousands of New Taiwan Dollars unless Otherwise Specified)

1. HISTORY AND ORGANIZATION

United Microelectronics Corporation (UMC) was incorporated in Republic of China (R.O.C.) in May 1980 and commenced operations in April 1982. UMC is a full service semiconductor wafer foundry, and provides a variety of services to satisfy customer needs. UMC's ordinary shares were publicly listed on the Taiwan Stock Exchange (TWSE) in July 1985 and its American Depositary Shares (ADSS) were listed on the New York Stock Exchange (NYSE) in September 2000.

The address of its registered office and principal place of business is No. 3, Li-Hsin Road II, Hsinchu Science Park, Hsinchu City, Taiwan. The principal operating activities of UMC and its subsidiaries ("the Company") are described in Notes 4(3) and 14.

2. DATE AND PROCEDURES OF AUTHORIZATION OF FINANCIAL STATEMENTS FOR ISSUE

The consolidated financial statements of the Company were authorized for issue in accordance with a resolution of the Board of Directors' meeting on February 24, 2021.

3. NEWLY ISSUED OR REVISED STANDARDS AND INTERPRETATIONS

(1) The Company applied International Financial Reporting Standards, International Accounting Standards, and Interpretations issued, revised or amended which are endorsed by Financial Supervisory Commission ("FSC") and become effective for annual periods beginning on or after January 1, 2020. There were no newly adopted or revised standards and interpretations that have material impact on the Company's financial position and performance.

(2) Standards issued by International Accounting Standards Board ("IASB") which are endorsed by FSC, but not yet adopted by the Company are listed below:

<u>New, Revised or Amended Standards and Interpretations</u>	<u>Effective Date issued by IASB</u>
Interest Rate Benchmark Reform - Phase 2 (Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16)	January 1, 2021

a. Interest Rate Benchmark Reform - Phase 2 (Amendments to IFRS 9 "Financial Instruments" ("IFRS 9"), IAS 39 "Financial Instruments: Recognition and Measurement" ("IAS 39"), IFRS 7 "Financial Instruments: Disclosures" ("IFRS 7"), IFRS 4 "Insurance Contracts" ("IFRS 4") and IFRS 16 "Leases" ("IFRS 16))

The final phase amendments mainly relate to the effects of the interest rate benchmark reform on the companies' financial statements:

- A company will not have to derecognise or adjust the carrying amount of financial instruments for changes to contractual cash flows as required by the reform, but will instead update the effective interest rate to reflect the change to the alternative benchmark rate;
- A company will not have to discontinue its hedge accounting solely because it makes changes required by the reform, if the hedge meets other hedge accounting criteria; and
- A company will be required to disclose information about new risks arising from the reform and how it manages the transition to alternative benchmark rates.

The abovementioned standards and interpretations were issued by IASB and endorsed by FSC so that they are applicable for annual periods beginning on or after January 1, 2021. The standards and interpretations listed above have no material impact on the Company's financial position and performance.

(3) Standards issued by International Accounting Standards Board ("IASB") but not yet endorsed by FSC (the effective dates are to be determined by FSC) are listed below:

<u>New, Revised or Amended Standards and Interpretations</u>	<u>Effective Date issued by IASB</u>
IFRS 10 "Consolidated Financial Statements" and IAS 28 "Investments in Associates and Joint Ventures" - Sale or Contribution of Assets between an Investor and its Associate or Joint Ventures	To be determined by IASB
IFRS 17 "Insurance Contracts"	January 1, 2023
Amendments to IAS 1 "Presentation of Financial Statements" - Classification of Liabilities as Current or Non-current	January 1, 2023
Narrow-scope amendments of IFRS, including Amendments to IFRS 3, Amendments to IAS 16, Amendments to IAS 37	January 1, 2022
Annual Improvements to IFRS Standards 2018 - 2020: Amendments to IFRS 1 "First-time Adoption of International Financial Reporting Standards"	January 1, 2022
Amendments to IFRS 9 "Financial Instruments"	January 1, 2022
Amendments to IFRS 16 "Leases"	January 1, 2022
Amendments to IAS 41 "Agriculture"	January 1, 2022

<u>New, Revised or Amended Standards and Interpretations</u>	<u>Effective Date issued by IASB</u>
<u>Amendments to IAS 1 "Presentation of Financial Statements" – Disclosure Initiative - Accounting Policies</u>	<u>January 1, 2023</u>
<u>Amendments to IAS 8 "Accounting Policies, Changes in Accounting Estimates and Errors" – Definition of Accounting Estimates</u>	<u>January 1, 2023</u>

The potential effects of adopting the standards or interpretations issued by IASB but not yet endorsed by FSC on the Company's financial statements in future periods are summarized as below:

b. IFRS 10 "Consolidated Financial Statements" ("IFRS 10") and IAS 28 "Investments in Associates and Joint Ventures" - Sale or Contribution of Assets between an Investor and its Associate or Joint Ventures (Amendment) ("IAS 28")

The amendments address the inconsistency between the requirements in IFRS 10 and IAS 28, in dealing with the loss of control of a subsidiary that is contributed to an associate or a joint venture. IAS 28 restricts gains and losses arising from contributions of non-monetary assets to an associate or a joint venture to the extent of the interest attributable to the other equity holders in the associate or joint venture. IFRS 10 requires full profit or loss recognition on the loss of control of a subsidiary. IAS 28 was amended so that the gain or loss resulting from the sale or contribution of assets that constitute a business as defined in IFRS 3 "Business Combinations" (IFRS 3) between an investor and its associate or joint venture is recognized in full.

IFRS 10 was also amended so that the gain or loss resulting from the sale or contribution of a subsidiary that does not constitute a business as defined in IFRS 3 between an investor and its associate or joint venture is recognized only to the extent of the unrelated investors' interests in the associate or joint venture.

c. IAS 1 "Presentation of Financial Statements" ("IAS 1") - Classification of Liabilities as Current or Non-current (Amendment)

These are the amendments to paragraphs 69-76 of IAS 1 presentation of financial statements and the amended paragraphs related to the classification of liabilities as current or non-current.

d. Narrow-scope amendments of IFRS, including Amendments to IFRS 3, Amendments to IAS 16, Amendments to IAS 37

- i. Updating a Reference to the Conceptual Framework (Amendments to IFRS 3)
The amendments updated IFRS 3 by replacing a reference to an old version of the Conceptual Framework for Financial Reporting with a reference to the latest version, which was issued in March 2018. The amendments also added an exception to the

recognition principle of IFRS 3 to avoid the issue of potential "day 2" gains or losses arising for liabilities and contingent liabilities. Besides, the amendments clarify existing guidance in IFRS 3 for contingent assets that would not be affected by replacing the reference to the Conceptual Framework.

ii. Property, Plant and Equipment: Proceeds before Intended Use (Amendments to IAS 16)

The amendments prohibit a company from deducting from the cost of property, plant and equipment amounts received from selling items produced while the company is preparing the asset for its intended use. Instead, a company will recognise such sales proceeds and related cost in profit or loss.

iii. Onerous Contracts - Cost of Fulfilling a Contract (Amendments to IAS 37)

The amendments clarify what costs a company should include as the cost of fulfilling a contract when assessing whether a contract is onerous.

e. Annual Improvements to IFRS Standards 2018 – 2020

i. Amendment to IFRS 1

The amendment simplifies the application of IFRS 1 by a subsidiary that becomes a first-time adopter after its parent in relation to the measurement of cumulative translation differences.

ii. Amendment to IFRS 9 Financial Instruments

The amendment clarifies the fees a company includes when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the original financial liability.

iii. Amendment to Illustrative Examples Accompanying IFRS 16 Leases

The amendment to Illustrative Example 13 accompanying IFRS 16 modifies the treatment of lease incentives relating to lessee's leasehold improvements.

f. IAS 1 "Presentation of Financial Statements" ("IAS 1") - Disclosure Initiative - Accounting Policies (Amendment)

The amendments improve accounting policy disclosures that to provide more useful information to investors and other primary users of the financial statements.

g. IAS 8 "Accounting Policies, Changes in Accounting Estimates and Errors" ("IAS 8") - Definition of Accounting Estimates (Amendment)

The amendments introduce the definition of accounting estimates and included other amendments to IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors to help companies distinguish changes in accounting estimates from changes in accounting policies.

The Company is currently evaluating the potential impact of the aforementioned standards and interpretations listed (b) ~ (g) to the Company's financial position and performance, and the related impact will be disclosed when the evaluation is completed.

4. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

(1) Statement of Compliance

The Company's consolidated financial statements were prepared in accordance with Regulations Governing the Preparation of Financial Reports by Securities Issuers (Regulations), IFRSs, IASs, IFRIC and SIC, which are endorsed by FSC (TIFRSs).

(2) Basis of Preparation

The consolidated financial statements have been prepared on a historical cost basis, except for financial instruments measured at fair value.

(3) General Description of Reporting Entity

a. Principles of consolidation

Subsidiaries are fully consolidated from the date of acquisition (the date on which the Company obtains control), and continue to be consolidated until the date that such control ceases. The Company controls an entity when the Company is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of the subsidiaries are prepared for the same reporting period as the parent company, using consistent accounting policies. All intra-group balances, transactions, unrealized gains and losses and dividends resulting from intra-group transactions are eliminated in full.

A change in the ownership interest of a subsidiary, without a change of control, is accounted for as an equity transaction. Total comprehensive income of subsidiaries is attributed to the stockholders of the parent and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

If the Company loses control over a subsidiary, the Company derecognizes the assets and liabilities of the subsidiary, as well as any non-controlling interests previously recorded by the Company. A gain or loss is recognized in profit or loss and is calculated as the difference between: (a) the aggregate of the fair value of consideration received and the fair value of any retained interest at the date when control is lost; and (b) the previous carrying amount of the assets (including goodwill), and liabilities of the subsidiary and any non-controlling interests. Any gain or loss previously recognized in the other comprehensive income would be reclassified to profit or loss or transferred directly to retained earnings if required by other TIFRSs. The fair value of any investment retained in the former subsidiary at the date when control is lost is regarded as the cost on initial recognition of an investment.

b. The consolidated entities are as follows:

As of December 31, 2020 and 2019

Investor	Subsidiary	Business nature	Percentage of ownership (%)	
			2020	2019
UMC	UMC GROUP (USA)	IC Sales	100.00	100.00
UMC	UNITED MICROELECTRONICS (EUROPE) B.V.	Marketing support activities	100.00	100.00
UMC	UMC CAPITAL CORP.	Investment holding	100.00	100.00
UMC	GREEN EARTH LIMITED (GE)	Investment holding	100.00	100.00
UMC	TLC CAPITAL CO., LTD. (TLC)	Venture capital	100.00	100.00
UMC	UMC INVESTMENT (SAMOA) LIMITED	Investment holding	100.00	100.00
UMC	FORTUNE VENTURE CAPITAL CORP. (FORTUNE)	Consulting and planning for venture capital	100.00	100.00
UMC	UMC GROUP JAPAN	IC Sales	-	100.00
UMC	UMC KOREA CO., LTD.	Marketing support activities	100.00	100.00
UMC	OMNI GLOBAL LIMITED (OMNI)	Investment holding	100.00	100.00
UMC	SINO PARAGON LIMITED	Investment holding	100.00	100.00
UMC	BEST ELITE INTERNATIONAL LIMITED (BE)	Investment holding	100.00	100.00
UMC	UNITED SEMICONDUCTOR JAPAN CO., LTD.	Sales and manufacturing of integrated circuits	100.00	100.00
UMC, FORTUNE and TLC	NEXPOWER TECHNOLOGY CORP. (NEXPOWER)	Sales and manufacturing of solar power batteries	-	93.36
UMC and FORTUNE	WAVETEK MICROELECTRONICS CORPORATION (WAVETEK)	Sales and manufacturing of integrated circuits	81.40	80.49
UMC CAPITAL CORP.	UMC CAPITAL (USA)	Investment holding	-	100.00
TLC	SOARING CAPITAL CORP.	Investment holding	100.00	100.00
SOARING CAPITAL CORP.	UNITRUTH ADVISOR (SHAANGHAI) CO., LTD.	Investment holding and advisory	100.00	100.00
GE	UNITED MICROCHIP CORPORATION	Investment holding	100.00	100.00
FORTUNE	TERA ENERGY DEVELOPMENT CO., LTD. (TERA ENERGY)	Energy technical services	100.00	100.00
TERA ENERGY	EVERRICH ENERGY INVESTMENT (HK) LIMITED (EVERRICH-HK)	Investment holding	100.00	100.00

When the Company acquires a business, it assesses the assets acquired and liabilities assumed for appropriate classification and designation in accordance with the contractual terms, economic circumstances and pertinent conditions as at the acquisition date.

If the business combination is achieved in stages, the acquisition date fair value of the acquirer's previously held equity interest in the acquiree is remeasured at fair value as at the acquisition date through profit or loss.

Any contingent consideration to be transferred by the acquirer will be recognized at fair value at the acquisition date. Subsequent changes to the fair value of the contingent consideration which is deemed to be an asset or liability, will be recognized in accordance with IFRS 9, either in profit or loss or other comprehensive income. If the contingent consideration is classified as equity, it should not be remeasured until it is finally settled within equity.

Goodwill is initially measured at cost, being the excess of the aggregate of the consideration transferred, the acquisition date fair value of the acquirer's previously held equity interest in the acquiree and the amount recognized for non-controlling interest over the net identifiable assets acquired and liabilities assumed. If the fair value of the net assets acquired is in excess of the aggregate consideration transferred and non-controlling interests, the difference is recognized as a gain on bargain purchase.

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each cash-generating unit ("CGU") that is expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units. Each unit or groups of units to which the goodwill is so allocated represents the lowest level within the Company at which the goodwill is monitored for internal management purposes and cannot be larger than an operating segment before aggregation.

Where goodwill forms part of a CGU and part of the operation within that unit is disposed, the goodwill associated with the operation disposed is included in the carrying amount of the operation. Goodwill disposed in this circumstance is measured based on the relative values of the operation disposed and the portion of the CGU retained.

(5) Foreign Currency Transactions

The Company's consolidated financial statements are presented in New Taiwan Dollars (NTD), which is also the parent company's functional currency. Each entity in the Company determines its own functional currency and items included in the financial statements of each entity are measured using that functional currency.

Investor	Subsidiary	Business nature	Percentage of ownership (%)	
			As of December 31, 2020	2019
EVERRICH-HK	EVERRICH (SHANDONG) ENERGY CO., LTD.	Solar engineering integrated design services	100.00	100.00
OMNI	UNITED MICROTECHNOLOGY CORPORATION (NEW YORK)	Research and development	-	100.00
OMNI	UNITED MICROTECHNOLOGY CORPORATION (CALIFORNIA)	Research and development	100.00	100.00
OMNI	ECP VITA PTE. LTD.	Insurance	100.00	100.00
OMNI	UMC TECHNOLOGY JAPAN CO., LTD.	Semiconductor manufacturing technology development and consulting services	100.00	100.00
WAVETEK	WAVETEK MICROELECTRONICS INVESTMENT (SAMOA) LIMITED (WAVETEK-SAMOA)	Investment holding	100.00	100.00
WAVETEK-SAMOA	WAVETEK MICROELECTRONICS CORPORATION (USA)	Marketing service	100.00	100.00
BE	INFOSHINE TECHNOLOGY LIMITED (INFOSHINE)	Investment holding	100.00	100.00
INFOSHINE	OAKWOOD ASSOCIATES LIMITED (OAKWOOD)	Investment holding	100.00	100.00
OAKWOOD	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD. (HEJIAN)	Sales and manufacturing of integrated circuits	99.9985	98.14
HEJIAN	UNITEDDS SEMICONDUCTOR (SHANDONG) CO., LTD.	Integrated circuits design services	100.00	100.00
UNITED MICROCHIP CORPORATION and HEJIAN	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD. (USCXM)	Sales and manufacturing of integrated circuits	67.76	65.22

(4) Business Combinations and Goodwill

Business combinations are accounted for using the acquisition method. The consideration transferred, the identifiable assets acquired and liabilities assumed are measured at the acquisition date fair value. For the components of non-controlling interests in the acquiree that are present ownership interests and entitle their holders to a proportionate share of the entity's net assets in the event of liquidation, the acquirer measures at either fair value or at the non-controlling interest's proportionate share of the acquiree's identifiable net assets. Acquisition-related costs are expensed as incurred and are classified under administrative expenses.

On partial disposal of a subsidiary that includes a foreign operation that does not result in a loss of control, the proportionate share of the cumulative amount of the exchange differences recognized in other comprehensive income is re-attributed to the non-controlling interests in that foreign operation. On partial disposal of an associate or a joint venture that includes a foreign operation that does not result in a loss of significant influence or joint control, only the proportionate share of the cumulative amount of the exchange differences recognized in other comprehensive income is reclassified to profit or loss.

Any goodwill and any fair value adjustments to the carrying amounts of assets and liabilities arising from the acquisition of a foreign operation are treated as assets and liabilities of the foreign operation and expressed in its functional currency.

(7) Current and Non-Current Distinction

An asset is classified as current when:

- a. the Company expects to realize the asset, or intends to sell or consume it, in its normal operating cycle;
- b. the Company holds the asset primarily for the purpose of trading;
- c. the Company expects to realize the asset within twelve months after the reporting period; or
- d. the asset is cash or a cash equivalent unless the asset is restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period.

All other assets are classified as non-current.

A liability is classified as current when:

- a. the Company expects to settle the liability in normal operating cycle;
- b. the Company holds the liability primarily for the purpose of trading;
- c. the liability is due to be settled within twelve months after the reporting period; or
- d. the Company does not have an unconditional right to defer settlement of the liability for at least twelve months after the reporting date. Terms of a liability that could, at the option of the counterparty, result in its settlement by the issue of equity instruments do not affect its classification.

All other liabilities are classified as non-current.

Transactions in foreign currencies are initially recorded by the Company's entities at their respective functional currency rates prevailing at the transaction date. Monetary assets and liabilities denominated in foreign currencies are translated into functional currency at the closing rates of exchange at the reporting date. Non-monetary items measured at fair value in foreign currencies are translated using the exchange rates at the date when the fair value is determined. Non-monetary items that are measured at historical cost in foreign currencies are translated using the exchange rates as at the dates of the initial transactions.

All exchange differences arising on the settlement of monetary items or on translating monetary items are taken to profit or loss in the period in which they arise except for the following:

- a. Exchange differences arising from foreign currency borrowings for an acquisition of a qualifying asset to the extent that they are regarded as an adjustment to interest costs are included in the borrowing costs that are eligible for capitalization.
- b. Foreign currency derivatives within the scope of IFRS 9 are accounted for based on the accounting policy for financial instruments.
- c. Exchange differences arising on a monetary item that is part of a reporting entity's net investment in a foreign operation are recognized initially in other comprehensive income and reclassified from equity to profit or loss upon disposal of such investment.

When a gain or loss on a non-monetary item is recognized in other comprehensive income, any exchange component of that gain or loss is recognized in other comprehensive income.

When a gain or loss on a non-monetary item is recognized in profit or loss, any exchange component of that gain or loss is recognized in profit or loss.

(6) Translation of Foreign Currency Financial Statements

The assets and liabilities of foreign operations are translated into NTD at the closing rate of exchange prevailing at the reporting date and their income and expenses are translated at an average exchange rate for the period. The exchange differences arising on the translation are recognized in other comprehensive income. On disposal of a foreign operation, the cumulative amount of the exchange differences relating to that foreign operation, recognized in other comprehensive income and accumulated in the separate component of equity, is reclassified from equity to profit or loss when the gain or loss on disposal is recognized.

(8) Cash Equivalents

Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash and with maturity dates that do not present significant risks of changes in value resulting from changes in interest rates, including time deposits with original maturities of three months or less and repurchase agreements collateralized by government bonds and corporate bonds.

(9) Financial Instruments

Financial assets and financial liabilities are recognized when the Company becomes a party to the contractual provisions of the instrument.

The Company determines the classification of its financial assets at initial recognition. In accordance with IFRS 9 and the Regulations, financial assets of the Company are classified as financial assets at fair value through profit or loss, financial assets at fair value through other comprehensive income, and financial assets measured at amortized cost.

Purchase or sale of financial assets and liabilities are recognized using trade date accounting. All financial assets are recognized initially at fair value plus, in the case of investments not at fair value through profit or loss, directly attributable costs. Financial assets at fair value through profit or loss are initially recognized at fair value, and transaction costs are expensed in the statement of comprehensive income.

Financial Assets

a. Classification and subsequent measurement

i. Financial assets at fair value through profit or loss

Financial assets that are not measured at amortized cost or at fair value through other comprehensive income are recognized initially at fair value and subsequently measured at fair value with changes in fair value recognized in profit or loss.

ii. Financial assets at fair value through other comprehensive income

At initial recognition, the Company may make an irrevocable election to present in other comprehensive income subsequent changes in the fair value of an investment in an equity instrument that is not held for trading. When there is a disposal of such equity instrument, accumulated amounts presented in other comprehensive income are not subsequently transferred to profit or loss but are transferred directly to the retained earnings.

The debt instruments are measured at fair value through other comprehensive income if both of the following conditions are met:

- (i) the financial asset is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets and
- (ii) the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Subsequent changes in the fair value of such financial assets at fair value through other comprehensive income are recognized in other comprehensive income. Before derecognition, impairment gains or losses, interest revenue and foreign exchange gains and losses are recognized in profit or loss. When the financial assets are derecognized the cumulative gain or loss previously recognized in other comprehensive income is reclassified from other comprehensive income to profit or loss as a reclassification adjustment.

iii. Financial assets measured at amortized cost

The financial assets are measured at amortized cost (including cash and cash equivalent, notes, accounts and other receivables and other financial assets) if both of the following conditions are met.

- (i) the financial asset is held within a business model whose objective is to hold financial assets in order to collect contractual cash flows; and
- (ii) the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Subsequent to initial recognition for financial assets measured at amortized cost, interest income, measured by the effective interest method amortization process, and impairment losses are recognized during circulation period. Gains and losses are recognized in profit or loss when the financial assets are derecognized.

b. Derecognition of financial assets

A financial asset is derecognized when:

- i. the contractual rights to receive cash flows from the asset have expired;
- ii. the Company has transferred assets and substantially all the risks and rewards of the asset have been transferred; or
- iii. the Company has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

On derecognition of a financial asset in its entirety, the difference between the carrying amount and the consideration received or to be received including any cumulative gain or loss that had been recognized in other comprehensive income is recognized in profit or loss (for debt instruments) or directly in retained earnings (for equity instruments).

If the transferred asset is part of a larger financial asset and the part transferred qualifies for derecognition in its entirety, the Company allocates the previous carrying amount of the larger financial asset between the part that continues to be recognized and the part that is derecognized, based on the relative fair values of those parts on the date of the transfer. Any cumulative gain or loss that had been recognized in other comprehensive income is allocated between the part that continues to be recognized and the part that is derecognized, based on the relative fair values of those parts. The difference between the carrying amount allocated to the part derecognized and the sum of the consideration received for the part derecognized and any cumulative gain or loss allocated that had been recognized in other comprehensive income, is recognized in profit or loss or directly in retained earnings.

c. Impairment policy

The Company measures, at each reporting date, an allowance for expected credit losses (ECLs) for debt instrument investments measured at fair value through other comprehensive income and financial assets measured at amortized cost by assessing reasonable and supportable information including forward-looking information. Where the credit risk on a financial asset has not increased significantly since initial recognition, the loss allowance is measured at an amount equal to 12-month ECLs. Where the credit risk on a financial asset has increased significantly since initial recognition, the loss allowance is measured at an amount equal to the lifetime ECLs.

For notes, accounts receivable and contract assets, the Company applies a simplified approach in calculating ECLs. Therefore, the Company does not track changes in credit risk, but instead recognizes a loss allowance based on lifetime ECLs at each reporting date. ECLs are measured based on the Company's historical credit loss experience and customers' current financial condition, adjusted for forward-looking factors, such as customers' economic environment.

Financial Liabilities

a. Classification and subsequent measurement

The Company classifies the instrument issued as a financial liability or an equity instrument in accordance with the substance of the contractual arrangement and the definitions of a financial liability and an equity instrument.

i. Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss include financial liabilities held for trading and financial liabilities designated upon initial recognition as at fair value through profit or loss. Excluding changes in own credit risk, gains or losses on the subsequent measurement including interest paid are recognized in profit or loss.

ii. Financial liabilities measured at amortized cost

Financial liabilities measured at amortized cost include interest bearing loans and borrowings that are subsequently measured using the effective interest method after initial recognition. Gains and losses are recognized in profit or loss when the liabilities are derecognized as well as through the effective interest method amortization process.

Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or transaction costs.

b. Derecognition of financial liabilities

A financial liability is derecognized when the obligation under the liability is discharged, cancelled or expires.

When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified (whether or not attributable to the financial difficulty of the debtor), such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability, and the difference in the respective carrying amounts and the consideration paid, including any non-cash assets transferred or liabilities assumed, is recognized in profit or loss.

(10) Hedge AccountingCash flow hedges

The Company manages exposures arising from foreign currency exchange risk. With the adoption of IFRS 9, the Company designates a hedging relationship between the hedging instrument and the hedged item with the existence of an economic relationship and determines the hedge ratio to meet the hedge effectiveness. The Company designates certain hedging instruments to partially hedge the foreign currency exchange rate risks associated with certain highly probable forecast transactions. The separate component of equity associated with the hedged item is adjusted to the lower of the following (in absolute amounts):

- a. the cumulative gain or loss on the hedging instrument from inception of the hedge; and
- b. the cumulative change in fair value (present value) of the expected future cash flows on the hedged item from inception of the hedge.

The portion of the gain or loss on the hedging instrument that is determined to be an effective hedge is recognized in other comprehensive income, whereas the ineffective portion of the change in the fair value of the hedging instrument is recognized directly in profit or loss. If a hedge of a forecast transaction subsequently results in the recognition of a non-financial asset or a non-financial liability, the associated gains or losses that were recognized in other comprehensive income are included in the initial cost of the asset or liability.

The Company prospectively discontinues hedge accounting only when the hedging relationship ceases to meet the qualifying criteria; for instance when the hedging instrument expires or is sold, terminated or exercised.

(11) Inventories

Inventories are accounted for on a perpetual basis. Raw materials are stated at actual purchase costs, while the work in process and finished goods are stated at standard costs and subsequently adjusted to weighted-average costs at the end of each month. The cost of work in progress and finished goods comprises raw materials, direct labor, other direct costs and related production overheads. Allocation of fixed production overheads to the costs of conversion is based on the normal capacity of the production facilities. Cost associated with underutilized capacity is expensed as incurred. Inventories are valued at the lower of cost and net realizable value item by item. Net realizable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.

(12) Investments Accounted For Under the Equity Method

The Company's investments in associates and joint ventures are accounted for using the equity method other than those that meet the criteria to be classified as non-current assets held for sale.

An associate is an entity over which the Company has significant influence and that is neither a subsidiary nor a joint venture. Significant influence is the power to participate in the financial and operating policy decisions of an entity, but is not control or joint control over those policies.

A joint venture is a type of joint arrangement whereby the Company that has joint control of the arrangement has rights to the net assets of the joint venture. Joint control is the contractually agreed sharing of control of an arrangement where no single party controls the arrangement on its own, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

Any difference between the acquisition cost and the Company's share of the net fair value of the identifiable assets and liabilities of associates and joint ventures is accounted for as follows:

- a. Any excess of the acquisition cost over the Company's share of the net fair value of the identifiable assets and liabilities of an associate or a joint venture at the date of acquisition is recognized as goodwill and is included in the carrying amount of the investment. Amortization of goodwill is not permitted.
- b. Any excess of the Company's share of the net fair value of the identifiable assets and liabilities of an associate or a joint venture over the acquisition cost, after reassessing the fair value, is recognized as a gain in profit or loss on the acquisition date.

Under the equity method, the investments in associates and joint ventures are carried on the balance sheet at cost plus post acquisition changes in the Company's share of profit or loss and other comprehensive income of associates and joint ventures. The Company's share of changes in associates' and joint ventures' profit or loss and other comprehensive income are recognized directly in profit or loss and other comprehensive income, respectively. Distributions received from an associate or a joint venture reduce the carrying amount of the investment. Any unrealized gains and losses resulting from transactions between the Company and the associate or the joint venture are eliminated to the extent of the Company's interest in the associate or the joint venture.

Financial statements of associates and joint ventures are prepared for the same reporting period as the Company. Where necessary, adjustments are made to bring the accounting policies in line with those of the Company.

The depreciation methods, useful lives and residual values for the assets are reviewed at each fiscal year end, and the changes from the previous estimation are recorded as changes in accounting estimates.

Except for land, which is not depreciated, the estimated useful lives of the assets are as follows:

Buildings	7~56 years
Machinery and equipment	6~7 years
Transportation equipment	6~7 years
Furniture and fixtures	3~7 years
Leasehold improvement	The shorter of lease terms or useful lives

(14) Lease

A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange of consideration, and to obtain substantially all economic benefits from use of the identified asset. The Company accounts for a lease contract as a single lease and separates the lease and non-lease components included in the contract.

The Company as a lessor

The Company recognizes lease payments from operating leases as rental income on a straight-line basis over the term of the lease.

The Company as a lessee

At the commencement date of a lease, a lessee is required to recognize right-of-use assets and lease liabilities, except for short-term leases and low-value asset leases.

- a. At the commencement date, lease liabilities should be recognized and measured at the present value of the lease payments that have not been paid at that date, using the Company's incremental borrowing rate. The payments comprise:
 - i. fixed payments less any lease incentives receivable;
 - ii. variable lease payments that depend on an index or rate;
 - iii. amounts expected to be payable by the Company under residual value guarantees;
 - iv. the exercise price of a purchase option if the Company is reasonably certain to exercise; and
 - v. payments for terminating the lease unless it is reasonably certain that early termination will not occur.

Upon an associate's issuance of new shares, if the Company takes up more shares than its original proportionate holding while maintaining its significant influence over that associate, such increase would be accounted for as an acquisition of an additional equity interest in the associate. Upon an associate's issuance of new shares, if the Company does not take up proportionate shares and reduces its stockholding percentage while maintaining its significant influence over that associate, a proportionate share of the gain or loss previously recognized in other comprehensive income is reclassified to profit and loss or other appropriate account(s). Any remaining difference will be charged to additional paid-in capital. When a change in equity of an associate does not result from its profit or loss or other comprehensive income, and such changes do not affect the Company's ownership percentage, the Company recognizes its proportionate share of all related changes in equity. Accordingly, upon disposal of the associate, the Company reclassifies the aforementioned additional paid-in capital to profit or loss on a pro rata basis.

The Company ceases to use the equity method upon loss of significant influence over an associate. Any difference between the carrying amount of the investment in an associate upon loss of significant influence and the fair value of the retained investment plus proceeds from disposal will be recognized in profit or loss. If an investment in an associate becomes an investment in a joint venture or an investment in a joint venture becomes an investment in an associate, the Company continues to apply the equity method and does not remeasure the retained interest.

The Company determines at each reporting date whether there is any objective evidence that the investments in associates and joint ventures are impaired. An impairment loss, being the difference between the recoverable amount of the associate or joint venture and its carrying amount, is recognized in profit or loss in the statement of comprehensive income and forms part of the carrying amount of the investments.

(13) Property, Plant and Equipment

Property, plant and equipment are stated at cost, net of accumulated depreciation and accumulated impairment losses, if any, and any borrowing costs incurred for long-term construction projects are capitalized if the recognition criteria are met. Significant renewals, improvements and major inspections meeting the recognition criteria are treated as capital expenditures, and the carrying amounts of those replaced parts are derecognized. Maintenance and repairs are recognized in expenses as incurred. Any gain or loss arising from derecognition of the assets is recognized in other operating income and expenses.

Depreciation is calculated on a straight-line basis over the estimated useful lives. A significant part of an item of property, plant and equipment which has a different useful life from the remainder of the item is depreciated separately.

Lease liabilities are measured in subsequent periods using the effective interest method, and the interest expenses are recognized over the lease terms. In addition, the carrying amount of lease liabilities is remeasured if there is a modification which is not accounted as a separate lease, a change in the lease term, a change in the lease payments (e.g., changes to future payments resulting from a change in an index or rate used to determine such lease payments) or a change in the assessment of an option to purchase the underlying asset.

- b. At the commencement date, the right-of-use assets should be measured at cost, which comprise of:
 - i. the amount of the initial measurement of the lease liabilities;
 - ii. any lease payments made at or before the commencement date; and
 - iii. any initial direct costs incurred.

Subsequent to initial recognition, the right-of-use assets are measured using cost model. Right-of-use assets measured under the cost model are depreciated from the commencement date to the earlier of the end of the useful life of the right-of-use assets or the end of the lease terms. Any remeasurement of the lease liabilities results in a corresponding adjustment of the right-of-use assets.

The Company presents right-of-use assets and lease liabilities on the balance sheets, and depreciation expenses and interest expenses are separately presented in the statements of comprehensive income. The Company recognizes the lease payments associated with short-term leases and low-value asset leases as expenses on a straight-line basis over the lease terms.

(15) Intangible Assets

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is its fair value as at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and accumulated impairment losses, if any. Internally generated intangible assets which fail to meet the recognition criteria are not capitalized and the expenditures are reflected in profit or loss in the period incurred.

The useful lives of intangible assets are assessed as either finite or indefinite.

Intangible assets with finite useful lives are amortized over the useful lives and assessed for impairment whenever there is an indication that the intangible assets may be impaired. The amortization period and the amortization method for an intangible asset with a finite useful life are reviewed at least at the end of each fiscal year. Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset is accounted for by changing the amortization period or method, as appropriate, and is treated as changes in accounting estimates.

Intangible assets with indefinite useful lives are not amortized, but are tested for impairment annually, either individually or at the CGU level. The assessment of indefinite useful life is reviewed annually to determine whether the indefinite useful life continues to be supportable. If not, the change in useful life from indefinite to finite is made on a prospective basis.

Gains or losses arising from derecognition of an intangible asset are recognized in other operating income and expenses.

Accounting policies of the Company's intangible assets are summarized as follows:

- a. Goodwill arising from business combinations is not amortized, and is tested for impairment annually or more frequently if events or changes in circumstances suggest that the carrying amount may not be recoverable. If an event occurs or circumstances change which indicates that the goodwill is impaired, an impairment loss is recognized. Goodwill impairment losses cannot be reversed once recognized.
- b. Software is amortized over the contract term or estimated useful life (3–6 years) on a straight-line basis.
- c. Patent and technology license fee: Upon signing of contract and obtaining the right to intellectual property, any portion attributable to non-cancellable and mutually agreed future fixed license fees for patent and technology is discounted, and recognized as an intangible asset and related liability. The cost of the intangible asset is not revalued once determined on initial recognition, and is amortized over the useful life (5–10 years) on a straight-line basis. Interest expenses from the related liability are recognized and calculated based on the effective interest method. Based on the timing of payments, the liability is classified as current and non-current.
- d. Others are mainly the intellectual property license fees, amortized over the shorter of the contract term or estimated useful life (3 years) of the related technology on a straight-line basis.

(16) Impairment of Non-Financial Assets

The Company assesses at each reporting date whether there is an indication that an asset in the scope of IAS 36 "Impairment of Assets" may be impaired. If any indication exists, the Company completes impairment testing for the CGU to which the individual assets belong. Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount. The recoverable amount of an individual asset or a CGU is the higher of its fair value less costs of disposal and its value in use. If circumstances indicate that previously recognized impairment losses may no longer exist or may have decreased at each reporting date, the Company re-assesses the asset's or CGU's recoverable amount. A previously recognized impairment loss is reversed only if there has been an increase in the estimated service potential of an asset which in turn increases the recoverable amount since the last impairment loss was recognized. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation or amortization, had no impairment loss been recognized for the asset in prior years.

A CGU, or group of CGUs, to which goodwill has been allocated is tested for impairment annually at the same time every year, irrespective of whether there is any indication of impairment. Where the carrying amount of a CGU (including the carrying amount of goodwill) exceeds its recoverable amount, the CGU is considered impaired. If an impairment loss is to be recognized, it is first allocated to reduce the carrying amount of any goodwill allocated to the CGU (group of units), then to the other assets of the unit (group of units) pro rata on the basis of the carrying amount of each asset in the unit (group of units). Impairment losses relating to goodwill cannot be reversed in future periods.

The recognition or reversal of impairment losses is classified as other operating income and expenses.

(17) BondsConvertible bonds

UMC evaluates the terms of the convertible bonds issued to determine whether it contains both a liability and an equity component. Furthermore, UMC assesses if the economic characteristics and risks of the put and call options embedded in the convertible bonds are closely related to the economic characteristics and risk of the host contract before separating the equity element.

For the liability component excluding the derivatives, its fair value is determined based on the effective interest rate applied at that time by the market to instruments of comparable credit status. The liability component is classified as a financial liability measured at amortized cost using the effective interest method before the instrument is converted or settled. For the embedded derivative that is not closely related to the host contract, it is classified as a liability component and subsequently measured at fair value through profit or loss unless it qualifies as an equity component. The equity component is recognized initially at the difference between the fair value of the compound financial instrument as a whole and the fair value of the liability component. Its carrying amount is not remeasured in the subsequent accounting periods. If the convertible bond issued does not have an equity component, it is accounted for as a hybrid instrument in accordance with the requirements under IFRS 9.

If the convertible bondholders exercise their conversion right before maturity, UMC shall adjust the carrying amount of the liability component. The adjusted carrying amount of the liability component at conversion and the carrying amount of equity component are credited to common stock and additional paid-in capital-premiums. No gain or loss is recognized upon bond conversion.

In addition, the liability component of convertible bonds is classified as a current liability if within 12 months the bondholders may exercise the put right. After the put right expires, the liability component of the convertible bonds should be reclassified as a non-current liability if it meets the definition of a non-current liability in all other respects.

(18) Post-Employment Benefits

Under defined contribution pension plans, the contribution payable to the plan in exchange for the service rendered by an employee during a period shall be recognized as an expense. The contribution payable, after deducting any amount already paid, is recognized as a liability.

Under defined benefit pension plans, the net defined benefit liability (asset) shall be recognized as the amount of the present value of the defined benefit obligation, deducting the fair value of any plan assets and adjusting for any effect of the asset ceiling. Service cost and net interest on the net defined benefit liability (asset) are recognized as expenses in the period of service. Remeasurement of the net defined benefit liability (asset), which comprises actuarial gains and losses, the return on plan assets and any change in the effect of the asset ceiling, excluding any amounts included in net interest, is recognized in other comprehensive income in the period in which they occur. Remeasurement recognized in other comprehensive income is reflected immediately in retained earnings and shall not be reclassified to profit or loss in a subsequent period.

(19) Government Grants

In accordance with IAS 20 “Accounting for Government Grants and Disclosure of Government Assistance”, the Company recognizes the government grants when there is reasonable assurance that such grants will be received and the conditions attaching to them will be complied with.

An asset related government grant is recorded as deferred income and recognized in profit or loss on a straight-line basis over the useful lives of the assets. An expense related government grant is recognized in profit or loss on a systematic basis over the periods in which the Company recognizes as expenses the related costs for which the grant is intended to compensate. A government grant that compensates for expenses or losses already incurred or for the purpose of giving immediate financial support to the Company with no future related costs is recognized in profit or loss when it becomes receivable.

(20) Treasury Stock

UMC’s own equity instruments repurchased (treasury stocks) are recognized at repurchase cost and deducted from equity. No gain or loss shall be recognized in profit or loss on the purchase, sale, issue or cancellation of UMC’s own equity instruments. Any difference between the carrying amount and the consideration is recognized in equity.

(21) Share-Based Payment Transactions

Equity-settled share-based payment transactions

The compensation cost of equity-settled transactions between the Company and its employees is measured at the fair value of the equity instruments on the grant date, and is recognized as expense, together with a corresponding increase in equity, over the vesting period. When issuing restricted stocks for employees, the unvested restricted stocks issued on the grant date for employees are recognized in unearned employee compensation as a transitional contra equity account and such account shall be amortized as compensation expense over the vesting period. The cumulative expense recognized for equity-settled transactions at each reporting date until the vesting date reflects the extent to which the vesting period has passed and the Company’s best estimate of the quantity of equity instruments that will ultimately vest. The movement in cumulative cost recognized at the beginning and end of the period is recognized through profit or loss for the period.

No expense is recognized for awards that do not ultimately vest, except for equity-settled transactions where vesting is conditional upon a market or non-vesting condition. The Company shall recognize the services received in expense irrespective of whether or not the market or non-vesting condition is satisfied, provided that all other performance and/or service conditions are satisfied.

Where the terms of an equity-settled transaction award are modified, the minimum expense recognized is the expense as if the terms had not been modified, if the original terms of the award are met. An additional expense is recognized for any modification that increases the total fair value of the share-based payment transaction, or is otherwise beneficial to the employee as measured at the date of modification.

Where an equity-settled award is cancelled, it is treated as if it fully vests on the date of cancellation, and any expense not yet recognized for the award is recognized immediately. This includes any award where non-vesting conditions within the control of either the entity or the employee are not met. However, if a new award substitutes for the cancelled award and is designated as a replacement award on the date that it is granted, the cancelled and new awards are treated as if they were a modification of the original award.

Cash-settled share-based payment transactions

The compensation cost of cash-settled share-based payment transactions between the Company and its employees is measured at the fair value of the liability incurred and recognized as expense with corresponding liability over the vesting period. The fair value of the liability is remeasured at the end of each reporting period and at the settlement date with the movement in fair value recognized through profit or loss for the period until the liability is settled.

(22) Revenue Recognition

Revenue from Contracts with Customers

The Company recognizes revenue from contracts with customers by applying the following steps of IFRS 15 “Revenue from Contracts with Customers”:

- a. identify the contract with a customer;
- b. identify the performance obligations in the contract;
- c. determine the transaction price;
- d. allocate the transaction price to the performance obligations in the contract; and
- e. recognize revenue when (or as) the entity satisfies its performance obligations

Current income tax

Current income tax assets and liabilities for the current period and prior periods are measured using the tax rates and tax laws that have been enacted or substantively enacted by the end of the reporting period. Current income tax relating to items recognized directly in other comprehensive income or equity is recognized in other comprehensive income or equity rather than profit or loss.

The additional income tax for undistributed earnings is recognized as income tax expense in the subsequent year when the distribution proposal is approved by the stockholders' meeting.

Deferred income tax

Deferred income tax is determined using the liability method on temporary differences between the tax bases of assets and liabilities and their carrying amounts in financial statements at the reporting date.

Deferred tax liabilities are recognized for all taxable temporary differences, except:

- a. When the deferred tax liability arises from the initial recognition of goodwill or of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss;
- b. In respect of taxable temporary differences associated with investments in subsidiaries, associates and joint ventures, when the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

Deferred tax assets are recognized for all deductible temporary differences, the carryforward of unused tax losses and unused tax credits, to the extent that it is probable that future taxable profit will be available against which the deductible temporary differences and the carryforward of unused tax losses and unused tax credits can be utilized, except:

- a. Where the deferred tax asset relating to the deductible temporary difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss;
- b. In respect of deductible temporary differences associated with investments in subsidiaries, associates and joint ventures, deferred tax assets are recognized only to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilized.

Revenues on the Company's contracts with customers for the sales of wafers and joint technology development are recognized as the Company satisfies its performance obligations to customers upon transfer of control of promised goods and services. The Company recognizes revenue at transaction price that are determined using contractual prices reduced by sales returns and allowances which the Company estimates based on historical experience having determined that a significant reversal in the amount of cumulative revenue recognized are not probable to occur. The Company recognizes refund liabilities for estimated sales return and allowances based on the customer complaints, historical experience, and other known factors.

The Company recognizes accounts receivable when the Company transfers control of the goods or services to customers and has a right to an amount of consideration that is unconditional. Such accounts receivable are short term and do not contain a significant financing component. For certain contracts that do not provide the Company unconditional rights to the consideration, and the transfer of control of the goods or services has been satisfied, the Company recognizes contract assets and revenues.

Consideration received from customers prior to the Company having satisfied its performance obligations are accounted for as contract liabilities which are transferred to revenue after the performance obligations are satisfied. The Company recognizes costs to fulfill a contract when the costs relate directly to the contract, generate or enhance resources to be used to satisfy performance obligations in the future, and are expected to be recovered. The costs and revenues are recognized when the Company satisfies its performance obligations to customers upon transfer of control of promised goods and services.

Interest income

For financial assets measured at amortized cost and financial assets at fair value through other comprehensive income, interest income is recorded using the effective interest method and recognized in profit or loss.

Dividends

Revenue is recognized when the Company's right to receive the dividends is established, which is generally when stockholders approve the dividend.

(23) Income Tax

Income tax expense (benefit) is the aggregate amount of current income tax and deferred income tax included in the determination of profit or loss for the period.

(24) Earnings per Share

Earnings per share is computed according to IAS 33, "Earnings per Share". Basic earnings per share is computed by dividing net income by the weighted-average number of ordinary shares outstanding during the current reporting period. Diluted earnings per share is computed by taking basic earnings per share into consideration plus additional ordinary shares that would have been outstanding if the dilutive share equivalents had been issued. Net income is also adjusted for interest and other income or expenses derived from any underlying dilutive share equivalents. The weighted-average of outstanding shares is adjusted retroactively for stock dividends and employee stock compensation issues.

5. SIGNIFICANT ACCOUNTING JUDGMENTS, ESTIMATES AND ASSUMPTIONS

The preparation of the Company's consolidated financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets, liabilities, the accompanying disclosures and the disclosure of contingent liabilities. However, uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

The key assumptions concerning the future and other key sources of estimating uncertainty at the reporting date that would have a significant risk for a material adjustment to the carrying amounts of assets or liabilities within the next fiscal year are discussed below.

The Company bases its assumptions and estimates on information available when the consolidated financial statements were prepared. Existing circumstances and assumptions about future developments, however, may change due to market changes or circumstances arising beyond the control of the Company. Such changes are reflected in the assumptions when they occur. Given the global economic climate and unforeseen effects from COVID-19 pandemic, the process of estimation has become more challenging. Actual results could differ from those estimates, and as such, differences may be material to the consolidated financial statements.

(1) The Fair Value of Level 3 Financial Instruments

Where the fair values of the level 3 financial assets recorded on the balance sheet cannot be derived from active markets, they are determined by the application of an appropriate valuation method which was mainly the market approach. The valuation of these financial assets involves significant judgments such as the selection of comparable companies or equity transaction prices and the application of assumptions such as discounts for lack of marketability, valuation multiples, etc. Changes in assumptions about these factors could affect the reported fair value of the financial assets. Please refer to Note 12 for more details.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates and tax laws that have been enacted or substantively enacted at the reporting date. The measurement of deferred tax assets and liabilities reflects the tax consequences that would follow the manner in which the Company expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities. Deferred tax relating to items recognized outside profit or loss is not recognized in profit or loss but rather in other comprehensive income or directly in equity. Deferred tax assets are reassessed and recognized at each reporting date. Unrecognized deferred tax assets are reassessed at each reporting date and are recognized to the extent that it has become probable that future taxable profits will allow the deferred tax assets to be recovered.

Deferred tax assets and liabilities offset each other, if a legally enforceable right exists to set off current income tax assets against current income tax liabilities, and the deferred taxes relate to the same taxable entity and the same taxation authority.

Tax benefits acquired as part of a business combination, but not satisfying the criteria for separate recognition at the acquisition date, might be realized and recognized subsequently as follows:

- a. Acquired deferred tax benefits recognized within the measurement period that result from new information about facts and circumstances that existed at the acquisition date shall be applied to reduce the carrying amount of any goodwill related to that acquisition. If the carrying amount of that goodwill is nil, any remaining deferred tax benefits shall be recognized in profit or loss;
- b. All other acquired deferred tax benefits realized shall be recognized in profit or loss, other comprehensive income or equity.

The Company has considered whether it is probable that a taxation authority will accept the uncertain tax treatments used in its income tax filings. If the Company concludes that it is probable that the taxation authority will accept an uncertain tax treatment, the Company determines the taxable profit, tax bases, unused tax losses, unused tax credits or tax rates consistently with the tax treatments used or planned to be used in its income tax filings. If it is not probable that the taxation authority will accept an uncertain tax treatment, the Company makes estimates using either the most likely amount or the expected value of the tax treatment, depending on which method the Company expects to better predict the resolution of the uncertainty. The Company reassesses a judgement or estimate if the facts and circumstance change.

(2) Inventories

Inventories are valued at the lower of cost and net realizable value item by item. Net realizable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale. Please refer to Note 6(4). Costs of completion include direct labor and overhead, including depreciation and maintenance of production equipment, indirect labor costs, indirect material costs, supplies, utilities and royalties that is expected to be incurred at normal production level. The Company estimates normal production level taking into account loss of capacity resulting from planned maintenance, based on historical experience and current production capacity.

(3) Post-Employment Benefits

Defined benefit costs and the present value of the defined benefit obligation for a pension plan are determined using the projected unit credit method. An actuarial valuation involves making various assumptions, which include the determination of the discount rate, future salary increase rate, mortality rate, etc., and may differ from actual developments in the future. In determining the appropriate discount rate, management considers the interest rates of the government bonds extrapolated from maturity corresponding to the expected duration of the defined benefit obligation. As for the rate of future salary increase, management takes account of past experiences, comparisons within the industry and the geographical region, inflation and the discount rate. Due to the complexity of the actuarial valuation and its long-term nature, a defined benefit obligation is highly sensitive to changes in these assumptions. The assumptions used are disclosed in Note 6(15).

(4) Impairment of Property, Plant and Equipment

At each reporting date or whenever events indicate that the asset's value has declined or significant changes in the market with an adverse effect have taken place, the Company assesses whether there is an indication that an asset in the scope of IAS 36 may be impaired. If any indication exists, the Company completes impairment testing for the CGU to which the individual assets belong. Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount. The recoverable amount of an individual asset or CGU is the higher of fair value less costs of disposal and its value in use. The fair value less costs of disposal is based on best information available to reflect the amount that an entity could obtain from the disposal of the asset in an orderly transaction between market participants, after deducting the costs of disposal. The value in use is measured at the net present value of the future cash flows the entity expects to derive from the asset or CGU. Cash flow projection involves subjective judgments and estimates which include the estimated useful lives of property, plant and equipment, capacity that generates future cash flows, capacity of physical output, potential fluctuations of economic cycle in the industry and the Company's operating situation.

(5) Income Tax

Uncertainties exist with respect to the interpretation of complex tax regulations, changes in tax laws, and the amount and timing of future taxable income. The Company establishes provisions, based on reasonable estimates, for possible consequences of audits by the tax authorities of the respective countries in which it operates. The amount of such provisions is based on various factors, such as experience of previous tax audits and different interpretations of tax regulations made by the taxable entity and the responsible tax authority. Such differences of interpretation may arise on a wide variety of issues depending on the conditions prevailing in the respective domicile of the Company.

Deferred tax assets are recognized for all carryforward of unused tax losses, tax credits and deductible temporary differences to the extent that it is probable that future taxable profit will be available or there are sufficient taxable temporary differences against which the unused tax losses, unused tax credits or deductible temporary differences can be utilized. The amount of deferred tax assets determined to be recognized is based upon the likely timing and the level of future taxable profits and taxable temporary differences. Please refer to Note 6(25) for more details on unrecognized deferred tax assets.

6. CONTENTS OF SIGNIFICANT ACCOUNTS(1) Cash and Cash Equivalents

	As of December 31,	
	2020	2019
Cash on hand and petty cash	\$5,765	\$6,074
Checking and savings accounts	20,163,007	26,384,925
Time deposits	66,939,601	59,966,481
Repurchase agreements collateralized by government bonds and corporate notes	6,939,663	9,134,997
Total	\$94,048,036	\$95,492,477

(2) Financial Assets at Fair Value through Profit or Loss

	As of December 31,	
	2020	2019
Financial assets mandatorily measured at fair value through profit or loss		
Common stocks	\$9,654,682	\$8,381,085
Preferred stocks	3,299,004	3,299,419
Funds	2,674,476	2,195,524
Convertible bonds	412,175	145,445
Forward contracts	2,384	-
Total	\$16,042,721	\$14,021,473
Current	\$1,216,634	\$722,794
Noncurrent	14,826,087	13,298,679
Total	\$16,042,721	\$14,021,473

(3) Accounts Receivable, Net

	As of December 31,	
	2020	2019
Accounts receivable	\$27,300,439	\$26,136,293
Less: loss allowance	(206,084)	(697,590)
Net	\$27,094,355	\$25,438,703

	As of December 31,	
	2020	2019
Neither past due	\$23,801,905	\$21,924,797
Past due:		
≤ 30 days	2,730,865	2,364,311
31 to 60 days	95,398	204,791
61 to 90 days	13,258	85,131
91 to 120 days	23,774	138,788
≥ 121 days	635,239	1,418,475
Subtotal	3,498,534	4,211,496
Total	\$27,300,439	\$26,136,293

Movement of loss allowance for accounts receivable:

	For the years ended	
	December 31,	2019
Beginning balance	\$697,590	\$48,152
Net recognize (reversal) for the period	(491,506)	649,438
Ending balance	\$206,084	\$697,590

The collection periods for third party domestic sales and third party overseas sales were month-end 30–60 days and net 30–60 days, respectively.

An impairment analysis is performed at each reporting date to measure expected credit losses (ECLs) of accounts receivable. For the receivables past due within 60 days, including not past due, the Company estimates a expected credit loss rate to calculate ECLs. For the years ended December 31, 2020 and 2019, the expected credit loss rates are not greater than 0.2%. The rate is determined based on the Company's historical credit loss experience and customer's current financial condition, adjusted for forward-looking factors such as customer's economic environment. For the receivables past due over 60 days, the Company applies the aforementioned rate and assesses individually whether to recognize additional expected credit losses by considering customer's operating condition and debt-paying ability.

 (4) Inventories, Net

	As of December 31,	
	2020	2019
Raw materials	\$5,507,002	\$5,102,571
Supplies and spare parts	4,290,672	3,548,376
Work in process	11,872,971	11,309,718
Finished goods	881,841	1,754,137
Total	\$22,552,486	\$21,714,802

a. For the years ended December 31, 2020 and 2019, the Company recognized NT\$133,143 million and NT\$122,999 million, respectively, in operating cost, of which NT\$272 million was related to reversal of write-down of inventories and NT\$820 million was related to write-down of inventories.

b. None of the aforementioned inventories were pledged.

 (5) Financial Assets at Fair Value through Other Comprehensive Income, Non-Current

	As of December 31,	
	2020	2019
Equity instruments		
Common stocks	\$10,355,999	\$14,547,738
Preferred stocks	170,145	175,494
Total	\$10,526,144	\$14,723,232

a. These investments in equity instruments are held for medium to long-term purposes and therefore are accounted for as fair value through other comprehensive income.

b. Dividend income recognized in profit or loss from equity instruments designated as fair value through other comprehensive income were listed below:

	For the years ended	
	December 31,	2019
Held at end of period	2020	2019
	\$286,795	\$365,052
Derecognized during the period	-	-
Total	\$286,795	\$365,052

c. In consideration of the Company's investment strategy, the Company disposed and derecognized certain investments designated as fair value through other comprehensive income. Details on derecognition of such investments for the years ended December 31, 2020 and 2019 were as follows:

	For the years ended	
	December 31,	2019
Fair value on the date of disposal	\$9,012,450	\$2,348,454
Cumulative gains (losses) reclassified to retained earnings due to derecognition	\$1,825,365	\$(551,903)

Please refer to Note 6 (6) for details on cumulative gains (losses) reclassified to retained earnings due to derecognition.

(6) Investments Accounted for Under the Equity Method

a. Details of investments accounted for under the equity method is as follows:

	As of December 31,		Percentage of ownership or voting rights	Amount	Percentage of ownership or voting rights
	2020	2019			
Listed companies					
FARADAY TECHNOLOGY CORP. (FARADAY) (Note A)	\$1,589,448	\$1,470,499	13.78		13.78
UNIMICRON TECHNOLOGY CORP. (UNIMICRON) (Note B)	9,107,377	-	13.36		-
CLIENTRON CORP. (CLIENTRON) (Note C)	-	276,866	-		21.90
Unlisted companies					
MTIC HOLDINGS PTE. LTD.	26,966	18,157	45.44		45.44
PURIUMFIL INC.	6,206	7,164	44.45		44.45
UNITECH CAPITAL INC.	823,185	642,660	42.00		42.00
TRIKNIGHT CAPITAL CORPORATION	2,488,169	2,281,631	40.00		40.00
HSUN CHIEH CAPITAL CORP.	195,675	122,060	40.00		30.00
HSUN CHIEH INVESTMENT CO., LTD.	10,165,563	4,378,193	36.49		36.49
YANN YUAN INVESTMENT CO., LTD.	6,551,136	3,829,934	30.87		30.87
UNITED LED CORPORATION HONG KONG LIMITED	96,026	121,973	25.14		25.14
VENSEN CO., LTD.	941	592	23.98		25.90
TRANSLINK CAPITAL PARTNERS I, L.P. (Note D)	174,985	172,414	10.38		10.38
WINAICO IMMOBILIJEN GMBH (Note E)	-	-	-		44.78
Total	\$31,225,677	\$13,322,143			

Note A: Beginning from June 2015, the Company accounts for its investment in FARADAY as an associate given the fact that the Company obtained the ability to exercise significant influence over FARADAY through representation on its Board of Directors.

Note B: Beginning from June 2020, the Company accounts for its investment in UNIMICRON as an associate given the fact that the Company obtained the ability to exercise significant influence over UNIMICRON through representation on its Board of Directors. UNIMICRON was previously as measured at fair value through other comprehensive income and reclassified as investments accounted for under the equity method. Cumulative fair value changes that was previously recognized in other comprehensive income up to reclassification date was reclassified to retained earnings in the current period.

Note C: In April 2020, the Company disposed of the ownership of shares of CLIENTRON and reclassified the investment as financial assets at fair value through profit or loss due to loss of significant influence over it.

Note D: The Company follows international accounting practices in equity accounting for limited partnerships and uses the equity method to account for these investees.

Note E: WINAICO IMMOBILIJEN GMBH was a joint venture to the Company disposed in December 2020.

The carrying amount of investments accounted for using the equity method for which there are published price quotations amounted to NT\$10,697 million and NT\$1,747 million, as of December 31, 2020 and 2019, respectively. The fair value of these investments were NT\$18,885 million and NT\$2,244 million, as of December 31, 2020, and 2019, respectively.

Certain investments accounted for under the equity method were audited by other independent accountants. Shares of profit or loss of these associates and joint ventures amounted to NT\$6,686 million and NT\$1,231 million for the years ended December 31, 2020 and 2019, respectively. Share of other comprehensive income (loss) of these associates and joint ventures amounted to NT\$2,716 million and NT\$1,184 million for the years ended December 31, 2020 and 2019, respectively. The balances of investments accounted for under the equity method were NT\$29,507 million and NT\$11,704 million as of December 31, 2020 and 2019, respectively.

Although the Company is the largest shareholder of some associates; after comprehensive assessment, the Company does not own the major voting rights as the remaining voting rights holders are able to align and prevent the Company from ruling the relevant operation. Therefore, the Company does not control but owns significant influence over the aforementioned associates.

None of the aforementioned associates and joint ventures were pledged.

(8) Property, Plant and Equipment

2020:

a. Assets Used by the Company:

Cost:

	Land	Buildings	Machinery and equipment	Transportation equipment	Furniture and fixtures	Leasehold improvement	Construction in progress and equipment awaiting inspection	Total
As of January 1, 2020	\$1,692,123	\$38,437,588	\$865,547,572	\$65,909	\$6,842,124	\$65,883	\$5,583,316	\$918,234,715
Additions	-	-	-	-	-	-	26,420,747	26,420,747
Disposals	-	(1,316,833)	(5,305,744)	(10,856)	(169,716)	-	(12,938)	(6,816,087)
Transfers and reclassifications	-	109,586	17,142,065	-	246,622	62	(15,528,464)	1,969,871
Exchange effect	(1,510)	27,169	(5,814,568)	(155)	(10,252)	(2,171)	66,435	(5,735,052)
As of December 31, 2020	\$1,690,613	\$37,257,510	\$871,569,325	\$54,898	\$6,908,778	\$63,774	\$16,529,296	\$934,074,194

Accumulated Depreciation and Impairment:

	Land	Buildings	Machinery and equipment	Transportation equipment	Furniture and fixtures	Leasehold improvement	Construction in progress and equipment awaiting inspection	Total
As of January 1, 2020	\$-	\$18,950,520	\$745,722,965	\$47,794	\$5,383,434	\$46,147	\$-	\$770,150,860
Depreciation	-	1,688,455	43,089,767	5,334	513,055	7,894	-	45,304,505
Disposals	-	(788,342)	(5,301,373)	(10,412)	(169,680)	-	-	(6,269,807)
Transfers and reclassifications	-	-	-	-	1,082	(1,924)	-	(842)
Exchange effect	-	655	(5,824,014)	16	(12,552)	(2,154)	-	(5,838,049)
As of December 31, 2020	\$-	\$19,851,288	\$777,687,345	\$42,732	\$5,715,339	\$49,963	\$-	\$803,346,667

b. Assets Subject to Operating Leases:

Cost:

	Land	Buildings	Machinery and equipment	Furniture and fixtures	Total
As of January 1, 2020	\$459,635	\$2,637,271	\$125,413	\$1,315,180	\$4,537,499
Disposals	-	(179,132)	-	-	(179,132)
Exchange effect	(13)	(6,828)	-	453	(6,388)
As of December 31, 2020	\$459,622	\$2,451,311	\$125,413	\$1,315,633	\$4,351,979

b. Financial information of associates and joint ventures:

There is no individually significant associate or joint venture for the Company. When an associate or a joint venture is a foreign operation, and the functional currency of the foreign entity is different from the Company, an exchange difference arising from translation of the foreign entity will be recognized in other comprehensive income (loss). Such exchange differences recognized in other comprehensive income (loss) in the financial statements for the years ended December 31, 2020 and 2019 were NTS(53) million and NTS(18) million, respectively, which were not included in the following table.

i. The aggregate amount of the Company's share of all its individually immaterial associates that are accounted for using the equity method is as follows:

	For the years ended December 31,	
	2020	2019
Income (loss) from continuing operations	\$6,667,952	\$1,147,495
Other comprehensive income (loss)	2,914,560	1,256,622
Total comprehensive income (loss)	\$9,582,512	\$2,404,117

ii. The aggregate amount of the Company's share of all its individually immaterial joint ventures that are accounted for using the equity method were both nil for the years ended December 31, 2020 and 2019, respectively.

c. One of UMC's associates, HSUN CHIEH INVESTMENT CO., LTD., held 441 million shares of UMC's stock as of December 31, 2020 and 2019, respectively. Another associate, YANN YUAN INVESTMENT CO., LTD., held 201 million and 200 million shares of UMC's stock as of December 31, 2020 and 2019, respectively.

(7) Other current assets

	As of December 31,	
	2020	2019
Time deposits with original maturities of over three months to a year	\$14,305,779	\$2,353,066
Costs to fulfill a contract	548,986	559,809
Others	71,566	-
Total	\$14,926,331	\$2,912,875

Accumulated Depreciation and Impairment:

	Land	Buildings	Machinery and equipment	Transportation equipment	Furniture and fixtures	Leasehold improvement	Construction in progress and equipment awaiting inspection	Total
As of January 1, 2019	\$-	\$17,549,256	\$714,286,307	\$45,434	\$5,112,684	\$49,580	\$5,949	\$737,049,210
Depreciation	-	1,542,864	44,307,925	6,105	488,216	2,441	-	46,347,551
Impairment loss	-	-	84,974	-	-	-	-	84,974
Disposals	-	(4,624)	(8,105,713)	(3,563)	(195,766)	(5,371)	(5,949)	(8,320,986)
Disposal of a subsidiary	-	-	(127,455)	-	-	-	-	(127,455)
Transfers and reclassifications	-	-	66,682	-	(325)	514	-	66,871
Exchange effect	-	(136,976)	(4,789,755)	(182)	(21,375)	(1,017)	-	(4,949,305)
As of December 31, 2019	\$-	\$18,950,520	\$745,722,965	\$47,794	\$5,383,434	\$46,147	\$-	\$770,150,860
Net carrying amount:								
As of December 31, 2019	\$1,692,123	\$19,487,068	\$119,824,607	\$18,115	\$1,458,690	\$19,736	\$5,583,516	\$148,083,855

b. Assets Subject to Operating Leases:

Cost:

	Land	Buildings	Machinery and equipment	Furniture and fixtures	Total
As of January 1, 2019	\$452,915	\$2,624,569	\$207,285	\$1,319,985	\$4,604,754
Disposals	-	(623)	-	(317)	(940)
Acquisition of a subsidiary	7,051	24,024	-	-	31,075
Transfers and reclassifications	-	-	(81,872)	3,213	(78,659)
Exchange effect	(331)	(10,699)	-	(7,701)	(18,731)
As of December 31, 2019	\$459,635	\$2,637,271	\$125,413	\$1,315,180	\$4,537,499

Accumulated Depreciation and Impairment:

	Land	Buildings	Machinery and equipment	Furniture and fixtures	Total
As of January 1, 2019	\$-	\$915,988	\$188,881	\$1,036,003	\$2,140,872
Depreciation	-	106,250	3,827	70,708	180,785
Disposals	-	(334)	-	(317)	(651)
Transfers and reclassifications	-	-	(67,295)	10	(67,285)
Exchange effect	-	(2,868)	-	(3,595)	(6,463)
As of December 31, 2019	\$-	\$1,019,056	\$125,413	\$1,102,809	\$2,247,258
Net carrying amount:					
As of December 31, 2019	\$459,635	\$1,618,235	\$-	\$212,371	\$2,290,241

Accumulated Depreciation and Impairment:

	Land	Buildings	Machinery and equipment	Furniture and fixtures	Total
As of January 1, 2020	\$-	\$1,019,036	\$125,413	\$1,102,809	\$2,247,258
Depreciation	-	100,454	-	69,425	169,879
Disposals	-	(107,240)	-	-	(107,240)
Exchange effect	-	(4,705)	-	(349)	(5,054)
As of December 31, 2020	\$-	\$1,007,545	\$125,413	\$1,171,885	\$2,304,843
Net carrying amount:					
As of December 31, 2020	\$459,622	\$1,443,766	\$-	\$143,748	\$2,047,136

In order to improve operations, reduce fixed costs and obtain the funds required for the company future operation, the subsidiary of new business segment (NEXPOWER) disposed of the building and its facility equipment located in Taichung City in the third quarter of 2020 in accordance with a resolution of the Board of Directors' meeting. The disposal gain of NT\$1,081 million was recorded in the other operating income and expenses.

2019:

a. Assets Used by the Company:

	Land	Buildings	Machinery and equipment	Transportation equipment	Furniture and fixtures	Leasehold improvement	Construction in progress and equipment awaiting inspection	Total
As of January 1, 2019	\$861,487	\$35,681,733	\$853,481,220	\$66,355	\$6,736,916	\$53,449	\$10,550,763	\$907,431,923
Additions	-	-	-	-	-	-	14,579,988	14,579,988
Disposals	-	(4,637)	(8,122,361)	(3,563)	(196,487)	(6,180)	(27,758)	(8,360,986)
Disposal of a subsidiary	-	-	(161,781)	-	-	-	-	(161,781)
Acquisition of a subsidiary	871,700	3,087,585	6,704,236	9	54,978	8,372	739,663	11,466,543
Transfers and reclassifications	-	211,285	20,723,346	3,557	285,891	11,712	(20,179,970)	1,055,821
Exchange effect	(41,064)	(538,378)	(7,077,088)	(449)	(39,174)	(1,470)	(79,170)	(7,776,793)
As of December 31, 2019	\$1,692,123	\$38,437,588	\$865,547,572	\$65,909	\$6,842,124	\$65,883	\$5,583,516	\$918,234,715

Cost:

	Land	Buildings	Machinery and equipment	Transportation equipment	Furniture and fixtures	Leasehold improvement	Construction in progress and equipment awaiting inspection	Total
As of January 1, 2019	\$861,487	\$35,681,733	\$853,481,220	\$66,355	\$6,736,916	\$53,449	\$10,550,763	\$907,431,923
Disposals	-	(4,637)	(8,122,361)	(3,563)	(196,487)	(6,180)	(27,758)	(8,360,986)
Disposal of a subsidiary	-	-	(161,781)	-	-	-	-	(161,781)
Acquisition of a subsidiary	871,700	3,087,585	6,704,236	9	54,978	8,372	739,663	11,466,543
Transfers and reclassifications	-	211,285	20,723,346	3,557	285,891	11,712	(20,179,970)	1,055,821
Exchange effect	(41,064)	(538,378)	(7,077,088)	(449)	(39,174)	(1,470)	(79,170)	(7,776,793)
As of December 31, 2019	\$1,692,123	\$38,437,588	\$865,547,572	\$65,909	\$6,842,124	\$65,883	\$5,583,516	\$918,234,715

In the second quarter of 2019, the Company reclassified SOCIALNEX ITALIA I S.R.L. (SOCIALNEX), a subsidiary, as a disposal group held for sale. As such, the Company performed an impairment test on the cash-generating unit (CGU) composed of property, plant and equipment before reclassifying the CGU as a single disposal group held for sale. The Company, determined the recoverable amount of the CGU based on the net selling price which was categorized to Level 3 and the impairment test revealed the recoverable amount of the CGU to be less than its carrying amount. Thus, the Company recorded in the other operating income and expenses an impairment loss of NT\$85 million for the year ended December 31, 2019, on the CGU to be disposed of from the new business segment. The Company disposed SOCIALNEX in November 2019.

Please refer to Note 8 for property, plant and equipment pledged as collateral.

(9) Leases

The Company leases various properties, such as land (including land use right), buildings, machinery and equipment, transportation equipment and other equipment with lease terms of 1 to 30 years, except for the land use rights with lease term of 50 years. Most lease contracts of land located in R.O.C state that lease payments will be adjusted based on the announced land value. The Company does not have purchase options of leased land at the end of the lease terms.

a. The Company as a lessee

(a) Right-of-use Assets

	As of December 31,	
	2020	2019
Land (including land use right)	\$5,146,342	\$5,700,136
Buildings	352,119	473,558
Machinery and equipment	2,227,035	2,092,924
Transportation equipment	12,252	12,019
Other equipment	10,294	12,880
Net	<u>\$7,748,042</u>	<u>\$8,291,517</u>

	For the years ended	
	2020	2019
<u>Depreciation</u>		
Land (including land use right)	\$333,402	\$366,827
Buildings	120,111	87,572
Machinery and equipment	223,120	180,115
Transportation equipment	8,145	6,001
Other equipment	4,531	4,030
Total	<u>\$689,309</u>	<u>\$644,545</u>

i. For the years ended December 31, 2020 and 2019, the Company's addition to right-of-use assets amounted to NT\$567 million and NT\$264 million, respectively.

ii. Please refer to Note 8 for right-of-use assets pledged as collateral.

b. Lease Liabilities

	As of December 31,	
	2020	2019
Current	\$550,147	\$569,957
Noncurrent	5,026,717	5,461,068
Total	<u>\$5,576,864</u>	<u>\$6,031,025</u>

Please refer to Note 6(23) for the interest expenses on the lease liabilities.

b. The Company as a lessor

The Company entered into leases on certain property, plant and equipment which are classified as operating leases as they did not transfer substantially all of the risks and rewards incidental to ownership of the underlying assets. The main contracts are to lease the dormitory to the employees with cancellation clauses. Please refer to Note 6(8) for relevant disclosure of property, plant and equipment for operating leases.

(10) Intangible Assets2020:Cost:

	Goodwill	Software	Patents and technology license fees	Others	Total
As of January 1, 2020	\$15,012	\$3,347,148	\$4,183,505	\$3,548,006	\$11,093,671
Additions	-	1,201,288	212,269	862,063	2,275,620
Write-off	-	(312,411)	(11,023)	(915,703)	(1,239,137)
Reclassifications	-	(3,808)	-	-	(3,808)
Exchange effect	-	32,341	145,714	2,886	180,941
As of December 31, 2020	\$15,012	\$4,264,558	\$4,530,465	\$3,497,252	\$12,307,287

Accumulated Amortization and Impairment:

	Goodwill	Software	Patents and technology license fees	Others	Total
As of January 1, 2020	\$7,398	\$951,176	\$2,299,223	\$2,637,627	\$5,895,424
Amortization	-	1,363,607	536,953	810,225	2,710,785
Write-off	-	(312,411)	(11,023)	(915,703)	(1,239,137)
Reclassifications	-	841	-	-	841
Exchange effect	-	31,815	26,884	2,762	61,461
As of December 31, 2020	\$7,398	\$2,035,028	\$2,852,037	\$2,534,911	\$7,429,374

Net carrying amount:
As of December 31,
2020

	\$7,614	\$2,229,530	\$1,678,428	\$962,341	\$4,877,913
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2019:Cost:

	Goodwill	Software	Patents and technology license fees	Others	Total
As of January 1, 2019	\$15,012	\$1,125,804	\$4,511,629	\$3,190,116	\$8,842,561
Additions	-	1,666,599	806,915	851,679	3,325,193
Write-off	-	(383,745)	(953,128)	(638,815)	(1,975,688)
Disposal of a subsidiary	-	-	-	(93)	(93)
Acquisition of a subsidiary	-	964,903	198,181	155,670	1,318,754
Reclassifications	-	53,661	-	-	53,661
Exchange effect	-	(80,074)	(380,092)	(10,551)	(470,717)
As of December 31, 2019	\$15,012	\$3,347,148	\$4,183,505	\$3,548,006	\$11,093,671

Accumulated Amortization and Impairment:

	Goodwill	Software	Patents and technology license fees	Others	Total
As of January 1, 2019	\$-	\$601,649	\$2,843,411	\$2,405,697	\$5,850,757
Amortization	-	760,010	531,790	874,810	2,166,610
Impairment loss	7,398	-	-	-	7,398
Write-off	-	(383,745)	(953,128)	(638,815)	(1,975,688)
Disposal of a subsidiary	-	-	-	(93)	(93)
Reclassifications	-	414	-	-	414
Exchange effect	-	(27,152)	(122,850)	(3,972)	(153,974)
As of December 31, 2019	\$7,398	\$951,176	\$2,299,223	\$2,637,627	\$5,895,424

Net carrying amount:
As of December 31,
2019

	\$7,614	\$2,395,972	\$1,884,282	\$910,379	\$5,198,247
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The amortization amounts of intangible assets is as follows:

	For the years ended December 31,	
	2020	2019
Operating costs	\$866,497	\$827,596
Operating expenses	\$1,844,288	\$1,339,014

(11) Short-Term Loans

	As of December 31,	
	2020	2019
Unsecured bank loans	\$11,057,132	\$8,080,200
Unsecured other loans	-	3,935,006
Total	\$11,057,132	\$12,015,206

For the years ended

	December 31,	
	2020	2019
Interest rates applied	0.00%~4.05%	0.00%~4.55%

The Company's unused short-term lines of credit amounted to NT\$63,177 million and NT\$64,169 million as of December 31, 2020 and 2019, respectively.

(12) Financial Liabilities at Fair Value through Profit or Loss, Current

	As of December 31,	
	2020	2019
Forward contracts	\$2,326	\$-

(13) Bonds Payable

	As of December 31,	
	2020	2019
Unsecured domestic bonds payable	\$18,700,000	\$21,200,000
Unsecured convertible bonds payable	-	17,729,293
Less: Discounts on bonds payable	(9,616)	(147,877)
Total	18,690,384	38,781,416
Less: Current portion	(1,999,910)	(20,093,825)
Net	\$16,690,474	\$18,687,591

a. UMC issued domestic unsecured corporate bonds. The terms and conditions of the bonds are as follows:

Term	Issuance date	Issued amount	Coupon rate	Repayment
Seven-year	In mid-March 2013	NT\$2,500 million	1.50%	Interest was paid annually and the principal was fully repaid in March 2020.
Seven-year	In mid-June 2014	NT\$2,000 million	1.70%	Interest will be paid annually and the principal will be repayable in June 2021 upon maturity.
Ten-year	In mid-June 2014	NT\$3,000 million	1.95%	Interest will be paid annually and the principal will be repayable in June 2024 upon maturity.
Five-year	In late March 2017	NT\$6,200 million	1.15%	Interest will be paid annually and the principal will be repayable in March 2022 upon maturity.
Seven-year	In late March 2017	NT\$2,100 million	1.43%	Interest will be paid annually and the principal will be repayable in March 2024 upon maturity.
Five-year	In early October 2017	NT\$2,000 million	0.94%	Interest will be paid annually and the principal will be repayable in October 2022 upon maturity.
Seven-year	In early October 2017	NT\$3,400 million	1.13%	Interest will be paid annually and the principal will be repayable in October 2024 upon maturity.

b. On May 18, 2015, UMC issued SGX-ST listed currency linked zero coupon convertible bonds. In accordance with IAS 32 "Financial Instruments Presentation", the value of the conversion right of the convertible bonds was determined at issuance and recognized in additional paid-in capital-stock options amounting to NT\$1,894 million, after reduction of issuance costs amounting to NT\$9 million. The effective interest rate on the liability component of the convertible bonds was determined to be 2.03%. The terms and conditions of the bonds are as follows:

- i. Issue Amount: US\$600 million
- ii. Period: May 18, 2015 ~ May 18, 2020 (Maturity date)

iii. Redemption:

- (i) UMC may redeem the bonds, in whole or in part, after 3 years of the issuance and prior to the maturity date, at the principal amount of the bonds with an interest calculated at the rate of -0.25% per annum (the Early Redemption Amount) if the closing price of the ordinary shares of UMC on the TWSE, for a period of 20 out of 30 consecutive trading days, the last of which occurs not more than 5 days prior to the date upon which notice of such redemption is published, is at least 125% of the conversion price. The Early Redemption Price will be converted into NTD based on the Fixed Exchange Rate (NTD 30.708=USD 1.00), and this fixed NTD amount will be converted using the prevailing rate at the time of redemption for payment in USD.
- (ii) UMC may redeem the bonds, in whole, but not in part, at the Early Redemption Amount if at least 90% in principal amount of the bonds has already been converted, redeemed or repurchased and cancelled.
- (iii) UMC may redeem all, but not part, of the bonds, at the Early Redemption Amount at any time, in the event of certain changes in the R.O.C.'s tax rules which would require UMC to gross up for payments of principal, or to gross up for payments of interest or premium.
- (iv) All or any portion of the bonds will be redeemable at Early Redemption Amount at the option of bondholders on May 18, 2018 at 99.25% of the principal amount.
- (v) Bondholders have the right to require UMC to redeem all of the bonds at the Early Redemption Amount if UMC's ordinary shares cease to be listed on the Taiwan Stock Exchange.
- (vi) In the event that a change of control as defined in the indenture of the bonds occurs to UMC, the bondholders shall have the right to require UMC to redeem the bonds, in whole but not in part, at the Early Redemption Amount.

iv. Terms of Conversion:

- (i) Underlying Securities: Ordinary shares of UMC
- (ii) Conversion Period: The bonds are convertible at any time on or after June 28, 2015 and prior to May 8, 2020, into UMC ordinary shares; provided, however, that if the exercise date falls within 5 business days from the beginning of, and during, any closed period, the right of the converting holder of the bonds to vote with respect to the shares it receives will be subject to certain restrictions.
- (iii) Conversion Price and Adjustment: The conversion price was originally NT\$17.50 per share. The conversion price will be subject to adjustments upon the occurrence of certain events set out in the indenture.

v. Conversion of Bonds:

The last conversion date of the bonds was on March 31, 2020. For the years ended December 31, 2020 and 2019, the outstanding principal amount of the convertible bonds totaling US\$215 million and US\$15 million had been converted into 465 million shares and 33 million shares, respectively.

Upon the maturity date of May 18, 2020, UMC fully redeemed the remaining unconverted bonds at 98.76% of the principal amount. The principal amount of redemption amounted to US\$369 million. UMC reclassified cancelled convertible rights of NT\$1,166 million from additional paid in capital-stock options to additional paid in capital-others.

(14) Long-Term Loans

a. Details of long-term loans as of December 31, 2020 and 2019 were as follows:

Lenders	As of December 31,		Redemption
	2020	2019	
Secured Long-Term Loan from Mega International Commercial Bank (1)	\$1,640	\$3,827	Effective July 3, 2017 to July 5, 2021. Interest-only payment for the first year. Principal is repaid in 17 quarterly payments with monthly interest payments.
Secured Long-Term Loan from Mega International Commercial Bank (2)	19,464	10,380	Effective October 24, 2019 to October 24, 2024. Interest-only payment for the first year. Principal is repaid in 17 quarterly payments with monthly interest payments.
Secured Long-Term Loan from Taiwan Cooperative Bank (1)	-	1,288	Effective August 10, 2015 to August 10, 2020. Interest-only payment for the first year. Principal is repaid in 17 quarterly payments with monthly interest payments.
Secured Long-Term Loan from Taiwan Cooperative Bank (2)	59,459	71,351	Effective October 19, 2015 to October 19, 2025. Interest-only payment for the first year. Principal is repaid in 37 quarterly payments with monthly interest payments.
Secured Long-Term Loan from Taiwan Cooperative Bank (3)	21,146	29,896	Repayable monthly from May 31, 2019 to May 31, 2023 with monthly interest payments.
Secured Long-Term Loan from Taiwan Cooperative Bank (4)	56,000	-	Repayable monthly from September 13, 2020 to August 13, 2025 with monthly interest payments.
Secured Long-Term Loan from Taiwan Cooperative Bank (5)	28,965	-	Repayable monthly from November 29, 2020 to August 29, 2025 with monthly interest payments.
Secured Syndicated Loans from China Development Bank and 6 others (Note A)	22,236,343	26,892,457	Effective October 20, 2016 to October 20, 2024. Interest-only payment for the first and the second year. Principal is repaid in 13 semi-annual payments with semi-annual interest payments.
Unsecured Long-Term Loan from ICBC Bank	1,702,589	1,744,975	Effective September 20, 2019 to September 9, 2021. Interest-only payment for the semi-annually year. Principal is repaid in 4 semi-annual payments with quarterly interest payments.

Note A: USCXM, the subsidiary of UMC failed to comply with the loan covenant to maintain its financial ratio at certain level and therefore the loan is reclassified to current liabilities. USCXM has notified the bank and executed the exemption application process. The exemption has not been obtained as of the reporting date.

Note B: UMC entered into a 5-year loan agreement with Mega International Commercial Bank, effective from October 17, 2016. The agreement offered UMC a revolving line of credit of NT\$3 billion. This line of credit will be reduced starting from the end of the two years and six months after the first use and every six months thereafter, with a total of six adjustments. The expiration date of the agreement is April 16, 2022. As of December 31, 2020 and 2019, the unused line of credit were nil and NT\$0.5 billion, respectively.

Note C: UMC entered into a 5-year loan agreement with Taipei Fubon Bank, effective from February 9, 2018. The agreement offered UMC a revolving line of credit of NT\$2 billion. This line of credit will be reduced starting from the end of the two years after the first use and every twelve months thereafter, with a total of four adjustments. The expiration date of the agreement is August 9, 2023. As of December 31, 2020 and 2019, the unused line of credit were NT\$0.8 billion and NT\$2 billion, respectively.

Note D: UMC entered into a 5-year loan agreement with Chang Hwa Commercial Bank, effective from November 2, 2016. The agreement offered UMC a revolving line of credit of NT\$3 billion. This line of credit will be reduced starting from the end of the third year after the first use and every three months thereafter, with a total of nine adjustments. The expiration date of the agreement is October 27, 2022. As of December 31, 2020 and 2019, the unused line of credit were NT\$1.7 billion and NT\$0.6 billion, respectively.

Note E: UMC entered into a 5-year loan agreement with KGI Commercial Bank, effective from September 11, 2018. The agreement offered UMC a revolving line of credit of NT\$2.5 billion. This line of credit will be reduced starting from the end of the second year after the first use and every twelve months thereafter, with a total of four adjustments. The expiration date of the agreement is December 11, 2023. As of December 31, 2020 and 2019, the unused line of credit were NT\$1 billion and NT\$2.5 billion, respectively.

Note F: First Commercial Bank approved the 1-year credit loan on December 30, 2019, which offered UMC a revolving line of credit of NT\$2 billion starting from the approval date to December 30, 2020. As of December 31, 2020 and 2019, the unused line of credit were nil and NT\$2 billion, respectively.

b. Please refer to Note 8 for property, plant and equipment and right-of-use assets pledged as collateral for long-term loans.

	As of December 31,		Redemption
	2020	2019	
Lenders			
Unsecured Long-Term Loan from CTBC Bank	\$-	\$747,900	Settlement beforehand on September 28, 2020 with monthly interest payments.
Unsecured Long-Term Loan from Xiamen Bank	440,500	-	Effective November 24, 2020 to May 24, 2022. Interest-only payment for the first semi-annually year. The principal will be repaid semi-annually of RMB0.1 million and the remaining principal will be repaid once at maturity, and the interest will be paid monthly.
Unsecured Long-Term Loan from Bank of Taiwan	2,000,000	-	Effective March 10, 2022 to December 10, 2024. Principal is repaid in 12 quarterly payments with monthly interest payments.
Unsecured Long-Term Loan from Taiwan Cooperative Bank	2,000,000	-	Effective May 5, 2023 to May 5, 2025. Principal is repaid in 9 quarterly payments with monthly interest payments.
Unsecured Revolving Loan from Mega International Commercial Bank (Note B)	1,500,000	2,000,000	Repayable semi-annually from October 16, 2020 to April 16, 2022 with monthly interest payments.
Unsecured Revolving Loan from Taipei Fubon Bank (Note C)	700,000	-	Repayable annually from August 9, 2021 to August 9, 2023 with monthly interest payments.
Unsecured Revolving Loan from Chang Hwa Commercial Bank (Note D)	1,000,000	2,400,000	Repayable quarterly from October 27, 2021 to October 27, 2022 with monthly interest payments.
Unsecured Revolving Loan from KGI Bank (Note E)	1,000,000	-	Repayable annually from December 11, 2021 to December 11, 2023 with monthly interest payments.
Unsecured Revolving Loan from First Commercial Bank (Note F)	300,000	-	Settlement due on May 15, 2025 with monthly interest payments.
Subtotal	33,066,106	33,902,074	
Less: Current portion	(24,985,168)	(4,701,775)	
Total	\$8,080,938	\$29,200,299	
	For the years ended		
	December 31,		
	2020	2019	
Interest rates applied	0.84%~4.67%	0.55%~5.56%	

(15) Post-Employment Benefits

a. Defined contribution plan

The employee pension plan under the Labor Pension Act of the R.O.C. is a defined contribution plan. Pursuant to the plan, UMC and its domestic subsidiaries make monthly contributions of 6% based on each individual employee's salary or wage to employees' pension accounts. Pension benefits for employees of the Singapore branch and subsidiaries overseas are provided in accordance with the local regulations. Total pension expenses of NT\$1,478 million and NT\$1,369 million are contributed by the Company for the years ended December 31, 2020 and 2019, respectively.

b. Defined benefit plan

i. The employee pension plan mandated by the Labor Standards Act of the R.O.C. is a defined benefit plan. The pension benefits are disbursed based on the units of service years and average monthly salary prior to retirement according to the Labor Standards Act. Two units per year are awarded for the first 15 years of services while one unit per year is awarded after the completion of the 15th year and the total units will not exceed 45 units. The Company contributes an amount equivalent to 2% of the employees' total salaries and wages on a monthly basis to the pension fund deposited with the Bank of Taiwan under the name of a pension fund supervisory committee. The pension fund is managed by the government's designated authorities and therefore is not included in the Company's consolidated financial statements. For the years ended December 31, 2020 and 2019, total pension expenses of NT\$40 million and NT\$59 million, respectively, were recognized by the Company.

ii. Movements in present value of defined benefit obligation and fair value of plan assets is as follows:

Movements in present value of defined benefit obligation during the year:

	For the years ended December 31,	
	2020	2019
Defined benefit obligation at beginning of year	\$ (5,411,069)	\$ (5,620,509)
Items recognized as profit or loss:		
Service cost	(13,090)	(21,043)
Interest cost	(36,254)	(51,146)
Subtotal	(49,344)	(72,189)
Remeasurements recognized in other comprehensive income (loss):		
Arising from changes in financial assumptions	(173,615)	(114,976)
Experience adjustments	(70,461)	180,095
Subtotal	(244,076)	65,119
Benefits paid	142,490	216,510
Defined benefit obligation at end of year	\$ (5,561,999)	\$ (5,411,069)

Movements in fair value of plan assets during the year:

	For the years ended December 31,	
	2020	2019
Beginning balance of fair value of plan assets	\$ 1,385,696	\$ 1,453,335
Items recognized as profit or loss:		
Interest income on plan assets	9,284	13,225
Contribution by employer	95,360	94,362
Benefits paid	(142,490)	(216,510)
Remeasurements recognized in other comprehensive income (loss):		
Return on plan assets, excluding amounts included in interest income	51,495	41,284
Fair value of plan assets at end of year	\$ 1,399,345	\$ 1,385,696

The actual returns on plan assets of the Company for the years ended December 31, 2020 and 2019 were NT\$61 million and NT\$55 million, respectively.

iii. The defined benefit plan recognized on the consolidated balance sheets is as follows:

	As of December 31,	
	2020	2019
Present value of the defined benefit obligation	\$ (5,561,999)	\$ (5,411,069)
Fair value of plan assets	1,399,345	1,385,696
Funded status	(4,162,654)	(4,025,373)
Net defined benefit liabilities, noncurrent recognized on the consolidated balance sheets	\$ (4,162,654)	\$ (4,025,373)

iv. The major categories of plan assets as a percentage of the fair value of the total plan assets are as follows:

	As of December 31,	
	2020	2019
Cash	16%	21%
Equity instruments	48%	45%
Debt instruments	25%	24%
Others	11%	10%

Employee pension fund is deposited under a trust administered by the Bank of Taiwan. The overall expected rate of return on assets is determined based on historical trend and actuaries' expectations on the assets' returns in the market over the obligation period. Furthermore, the utilization of the fund is determined by the labor pension fund supervisory committee, which also guarantees the minimum earnings to be no less than the earnings attainable from interest rates offered by local banks for two-year time deposits.

(16) Deferred Government Grants

	As of December 31,	
	2020	2019
Beginning balance	\$13,551,553	\$17,480,904
Arising during the period	578,844	617,685
Recorded in profit or loss:		
Other operating income	(3,994,818)	(4,062,148)
Exchange effect	71,530	(484,888)
Ending balance	<u>\$10,207,109</u>	<u>\$13,551,553</u>
Current	\$3,836,211	\$3,780,579
Noncurrent	6,370,898	9,770,974
Total	<u>\$10,207,109</u>	<u>\$13,551,553</u>

The significant government grants related to equipment acquisitions received by the Company are amortized as income over the useful lives of related equipment and recorded in the net other operating income and expenses.

(17) Refund Liabilities (classified under other current liabilities)

	As of December 31,	
	2020	2019
Refund liabilities	<u>\$1,252,451</u>	<u>\$2,078,075</u>

(18) Equity

- a. Capital stock:
- i. UMC had 26,000 million common shares authorized to be issued as of December 31, 2020 and 2019, of which 12,422 million shares, and 11,724 million shares were issued as of December 31, 2020 and 2019, respectively, each at a par value of NT\$10.
 - ii. UMC had 127 million and 138 million ADSs, which were traded on the NYSE as of December 31, 2020 and 2019, respectively. The total number of common shares of UMC represented by all issued ADSs were 636 million shares and 692 million shares as of December 31, 2020 and 2019, respectively. One ADS represents five common shares.
 - iii. On June 28, 2019, UMC cancelled 400 million shares of treasury stock, which were repurchased during the period from May 13 to June 13, 2016 for the purpose of transferring to employees, and repurchased during the period from April 26 to June 13, 2019 for the purpose of maintaining UMC's credit and its stockholders' rights and interests.

v. The principal underlying actuarial assumptions are as follows:

	As of December 31,	
	2020	2019
Discount rate	0.29%	0.67%
Rate of future salary increase	3.50%	3.50%

vi. Expected future benefit payments is as follows:

Year	As of December 31, 2020
2021	\$300,260
2022	329,681
2023	348,862
2024	387,002
2025	423,810
2026 and thereafter	3,910,413
Total	<u>\$5,700,028</u>

The Company expects to make pension fund contribution of NT\$517 million in 2021. The weighted-average durations of the defined benefit obligation are both 9 years as of December 31, 2020 and 2019.

vii. Sensitivity analysis:

	As of December 31, 2020	
	Discount rate	Rate of future salary increase
Decrease (increase) in defined benefit obligation	0.5% increase	0.5% increase
	0.5% decrease	0.5% decrease
	<u>\$226,798</u>	<u>\$-(204,390)</u>
		<u>\$195,078</u>

	As of December 31, 2019	
	Discount rate	Rate of future salary increase
Decrease (increase) in defined benefit obligation	0.5% increase	0.5% increase
	0.5% decrease	0.5% decrease
	<u>\$235,666</u>	<u>\$(215,694)</u>
		<u>\$205,388</u>

The sensitivity analyses above have been determined based on a method that extrapolates the impact on the net defined benefit obligation as a result of reasonable changes in key assumptions occurring at the end of the reporting period.

- ii. According to the Securities and Exchange Law of the R.O.C., the total shares of treasury stock shall not exceed 10% of UMC's issued stock, and the total purchase amount shall not exceed the sum of the retained earnings, additional paid-in capital-premiums and realized additional paid-in capital. As such, the number of shares of treasury stock that UMC held as of December 31, 2020 and 2019, did not exceed the limit.
- iii. In compliance with Securities and Exchange Law of the R.O.C., treasury stock held by the parent company should not be pledged, nor should it be entitled to voting rights or receiving dividends. Stock held by subsidiaries is treated as treasury stock. These subsidiaries have the same rights as other stockholders except for subscription to new stock issuance and voting rights.
- iv. UMC's subsidiary, FORTUNE VENTURE CAPITAL CORP., held shares of UMC's stock through acquiring shares of UNITED SILICON INC. in 1997, and these shares were converted to UMC's stock in 2000 as a result of the Company's 5 in 1 merger. As of December 31, 2020 and 2019, UMC's subsidiary, FORTUNE VENTURE CAPITAL CORP., held 16 million shares of UMC's stock. The closing price on December 31, 2020 and 2019, were NT\$47.15 and NT\$16.45, respectively.

c. Retained earnings and dividend policies:

According to UMC's Articles of Incorporation, current year's earnings, if any, shall be distributed in the following order:

- i. Payment of taxes.
- ii. Making up loss for preceding years.
- iii. Setting aside 10% for legal reserve, except for when accumulated legal reserve has reached UMC's paid-in capital.
- iv. Appropriating or reversing special reserve by government officials or other regulations.
- v. The remaining, if applicable, may be distributed preferentially as preferred shares dividends for the current year, and if there is still a remaining balance, in addition to the previous year's unappropriated earnings, UMC shall distribute it according to the distribution plan proposed by the Board of Directors according to the dividend policy and submitted to the stockholders' meeting for approval.

iv. On March 11, 2019, UMC cancelled 300 million shares of treasury stock, which were repurchased during the period from November 7, 2018 to January 4, 2019, for the purpose of maintaining UMC's credit and its stockholders' rights and interests.

v. Please refer to Note 6(13) for the Company's conversion of unsecured convertible bonds into ordinary shares of UMC for the years ended December 31, 2020 and 2019, respectively.

vi. On September 1, 2020, UMC issued restricted stocks for its employees in a total of 200 million shares with a par value of NT\$10 each. The issuance was approved by the competent authority and the registration was completed. Please refer to Note 6(19) for the information of restricted stocks.

b. Treasury stock:

i. UMC carried out a treasury stock program and repurchased its shares from the centralized securities exchange market. The purpose for the repurchase and changes in treasury stock during the years ended December 31, 2020 and 2019 were as follows:

For the year ended December 31, 2020
(In thousands of shares)

Purpose	As of	
	January 1, 2020	December 31, 2020
For transfer to employees	-	105,000

For the year ended December 31, 2019
(In thousands of shares)

Purpose	As of	
	January 1, 2019	December 31, 2019
For transfer to employees	200,000	-
To maintain UMC's credit and stockholders' rights and interests	280,000	220,000
	480,000	220,000
		700,000

Because UMC conducts business in a capital intensive industry and continues to operate in its growth phase, the dividend policy of UMC shall be determined pursuant to factors such as the investment environment, its funding requirements, domestic and overseas competitive landscape and its capital expenditure forecast, as well as stockholders' interest, balancing dividends and UMC's long-term financial planning. The Board of Directors shall propose the distribution plan and submit it to the stockholders' meeting every year. The distribution of stockholders' dividend shall be allocated as cash dividend in the range of 20% to 100%, and stock dividend in the range of 0% to 80%.

According to the regulations of Taiwan FSC, UMC is required to appropriate a special reserve in the amount equal to the sum of debit elements under equity, such as unrealized loss on financial instruments and debit balance of exchange differences on translation of foreign operations, at every year-end. Such special reserve is prohibited from distribution. However, if any of the debit elements is reversed, the special reserve in the amount equal to the reversal may be released for earnings distribution or offsetting accumulated deficits.

The appropriation of earnings for 2019 was approved by the stockholders' meeting held on June 10, 2020, while the appropriation of earnings for 2020 was approved by the Board of Directors' meeting on February 24, 2021. The details of distribution are as follows:

	Appropriation of earnings		Cash dividend per share	
	(in thousand NT dollars)		(NT dollars)	
	2020	2019	2020	2019
Legal reserve	\$3,197,890	\$963,947		
Special reserve	(2,857,666)	(3,491,626)		
Cash dividends	19,875,842	9,765,155	\$1.60	\$0.75

The appropriation of earnings for 2019 approved by the stockholders' meeting on June 10, 2020 is different from the amounts disclosed in the consolidated and parent company only financial statements for the year ended December 31, 2019 because of the additional legal reserve appropriated for the reversal of special reserve in accordance with the Rule No. 10902005780 subsequently issued by the Ministry of Economic Affairs, R.O.C. on March 3, 2020.

The aforementioned 2019 appropriation approved by stockholders' meeting was consistent with the resolutions of the Board of Directors meeting held on April 27, 2020.

The cash dividend per share for 2019 was adjusted to NT\$0.80395653 per share. The adjustment was made for the net decrease in outstanding common shares due to the share repurchase program and the conversion of convertible bonds into ordinary shares of UMC.

The appropriation of 2020 unappropriated retained earnings has not yet been approved by the stockholder's meeting as of the reporting date. Information relevant to the Board of Directors' meeting recommendations and stockholders' meeting approval can be obtained from the "Market Observation Post System" on the website of the TWSE.

Please refer to Note 6(21) for information on the employees and directors' compensation.

d. Non-controlling interests:

	For the years ended	
	2020	2019
Adjusted balance as of January 1	\$410,065	\$466,768
Attributable to non-controlling interests:		
Net loss	(2,009,077)	(3,578,847)
Other comprehensive income (loss)	126,653	(15,213)
Disposal of subsidiaries	(51,565)	-
The differences between the fair value of the consideration paid or received from acquiring or disposing subsidiaries and the carrying amounts of the subsidiaries	106,879	-
Changes in subsidiaries' ownership	(10,331)	24,740
Non-controlling interests	(551,608)	-
Others	2,092,340	3,512,617
Ending balance	\$113,356	\$410,065

(19) Share-Based Payment

a. Treasury stock plan for employees

In August 2018, the Company executed a compensation plan to offer 200 million shares of treasury stock to qualified employees of UMC. The compensation cost for the shared-based payment was measured at fair value, having recognized in expense the difference between the closing quoted market price of the shares at the grant date and the cash received from employees. The closing quoted market price of the Company's shares on the grant date was NT\$16.95 per share. For the stocks vested on the date of grant, the Company recognized the entire compensation cost once granted, whereas for the stocks with requisite service conditions to vest at the end of one or two years from the date of grant, the Company recognizes the compensation cost over the vesting period in which the services conditions are fulfilled, together with a corresponding increase in equity. For the years ended December 31, 2020 and 2019, the compensation cost of NT\$107 million and NT\$366 million, respectively, were recognized in expenses by the Company.

c. Stock appreciation right plan for employees

In September 2020, the Company executed a compensation plan to grant 26 million units of cash-settled stock appreciation right to qualified employees of the Company without consideration. One unit of stock appreciation right to employees represents a right to the intrinsic value of one common share of UMC. The life of the plan is four years. Beginning from the end of two years since the date of grant, those employees who fulfill both service period and performance conditions set by the Company are gradually eligible to the vested stock appreciation right at certain percentage and time frame. For those employees who fail to fulfill the vesting conditions, the Company will withdraw their rights without consideration. During the vesting period, the holders of the stock appreciation right are not entitled the same rights as those of common stock holders of UMC.

The compensation cost for the cash-settled share-based payment was measured at fair value on the grant date by using Black-Scholes Option Pricing Model and will be remeasured at the end of each reporting period until settlement. The assumptions used are as below:

	As of December 31, 2020
Share price of measurement date (NT\$/ per share)	\$47.15
Expected volatility	33.71%~37.64%
Expected life	1.67~3.67 years
Expected dividend yield	4.73%
Risk-free interest rate	0.14%~0.19%

For the year ended December 31, 2020, the compensation cost of NT\$80 million was recognized in expenses by the Company. As of December 31, 2020, the liabilities for stock appreciation right recognized amounted to NT\$81 million. The intrinsic value for the liabilities of vested rights was nil.

(20) Operating Revenues

a. Disaggregation of revenue

i. By Product

	For the years ended	
	December 31,	2019
	2020	2019
Wafer	\$169,885,201	\$142,625,019
Others	6,935,713	5,576,622
Total	<u>\$176,820,914</u>	<u>\$148,201,641</u>

In September 2020, the Company executed a compensation plan to offer 105 million shares of treasury stock to qualified employees of the Company. The compensation cost for the shared-based payment was measured at fair value, having recognized in expense the difference between the closing quoted market price of the shares at the grant date and the cash received from employees. The closing quoted market price of the Company's shares on the grant date was NT\$21.45 per share. For the stocks vested on the date of grant, the Company recognized the entire compensation cost once granted, whereas for the stocks with requisite service conditions to vest at the end of one year from the date of grant, the Company recognizes the compensation cost over the period in which the services conditions are fulfilled, together with a corresponding increase in equity. For the year ended December 31, 2020, the compensation cost of NT\$348 million was recognized in expenses by the Company.

b. Restricted stock plan for employees

On June 10, 2020, the stockholders approved a compensation plan in their meeting to issue restricted stocks to qualified employees of UMC without consideration. The maximum shares to be issued are 233 million common shares. The Company is authorized to issue restricted stocks in one tranche or in installments, under the custody of trust institution, within one year from the date of receiving the effective registration from the competent authority. The issuance plan was authorized for effective registration by the Securities and Futures Bureau of the FSC and accordingly, 200 million shares of restricted stock for employees were issued without consideration on September 1, 2020. The life of the plan is four years. Beginning from the end of two years since the date of grant, those employees who fulfill both service period and performance conditions set by the Company are gradually eligible to the vested restricted stocks at certain percentage and time frame. For those employees who fail to fulfill the vesting conditions, the Company will recall and cancel their stocks without consideration. During the vesting period, the restricted stock holders are entitled the same rights as those of common stock holders including the right to receive dividends, but are restricted to sell, pledge, set guarantee, transfer, grant, or dispose the restricted stocks in any other ways. Related information can be obtained from the "Market Observation Post System" on the website of the TWSE.

The compensation cost for the equity-settled share-based payment was measured at fair value based on the closing quoted market price of the shares on the grant date, NT\$21.8 per share. The unvested restricted stocks issued on the grant date for employees are recognized in unearned employee compensation as a transitional contra equity account and such account shall be amortized as compensation expense over the vesting period. For the year ended December 31, 2020, the compensation cost of NT\$504 million was recognized in expenses by the Company.

ii. By geography

	For the years ended December 31,	
	2020	2019
Taiwan	\$65,003,509	\$53,966,435
Singapore	26,054,856	23,979,343
China (includes Hong Kong)	22,629,388	19,115,188
Japan	15,363,352	9,855,772
USA	24,546,963	19,957,615
Europe	6,416,235	6,900,339
Others	16,806,611	14,426,949
Total	\$176,820,914	\$148,201,641

The geographic breakdown of the Company's operating revenues was based on the location of the Company's customers.

iii. By operating segments

	For the year ended December 31, 2020				
	Wafer Fabrication	New Business	Subtotal	Adjustment and Elimination	Consolidated
Revenue from contracts with customers	\$176,810,702	\$14,893	\$176,825,595	\$(4,681)	\$176,820,914
The timing of revenue recognition:					
At a point in time	\$174,481,824	\$14,893	\$174,496,717	\$(4,681)	\$174,492,036
Over time	2,328,878	-	2,328,878	-	2,328,878
Total	\$176,810,702	\$14,893	\$176,825,595	\$(4,681)	\$176,820,914

	For the year ended December 31, 2019				
	Wafer Fabrication	New Business	Subtotal	Adjustment and Elimination	Consolidated
Revenue from contracts with customers	\$148,123,306	\$78,335	\$148,201,641	\$-	\$148,201,641
The timing of revenue recognition:					
At a point in time	\$146,978,699	\$78,335	\$147,057,034	\$-	\$147,057,034
Over time	1,144,607	-	1,144,607	-	1,144,607
Total	\$148,123,306	\$78,335	\$148,201,641	\$-	\$148,201,641

b. Contract balances

i. Contract assets, current

	As of December 31,		
	2020	2019	2018
Sales of goods and services	\$625,222	\$599,491	\$486,184
Less: Loss allowance	(367,381)	(385,248)	(393,974)
Net	\$257,841	\$214,243	\$92,210

The loss allowance was assessed by the Company primarily at an amount equal to lifetime expected credit losses. The loss allowance was mainly resulted from the indictment filed by the United States Department of Justice (DOJ) against UMC related to the joint technology development agreement. Please refer to Note 9(6).

ii. Contract liabilities

	As of December 31,		
	2020	2019	2018
Sales of goods and services	\$2,497,469	\$1,470,195	\$932,371
Current	\$2,040,989	\$988,115	\$932,371
Noncurrent	456,480	482,080	-
Total	\$2,497,469	\$1,470,195	\$932,371

The movement of contract liabilities is mainly caused by the timing difference of the satisfaction of a performance of obligation and the consideration received from customers.

The Company recognized NT\$706 million and NT\$616 million, respectively, in revenues from the contract liabilities balance at the beginning of the period as performance obligations were satisfied for the years ended December 31, 2020 and 2019.

c. The Company's transaction price allocated to unsatisfied performance obligations amounted to NT\$2,759 million and NT\$2,987 million as of December 31, 2020 and 2019, respectively. The Company will recognize revenue as the Company satisfies its performance obligations over time that aligns with progress toward completion of a contract in the future. As of the report date, the progress cannot be reliably estimated primarily due to the suspension as disclosed in Note 9(6). The estimate of the transaction price does not include any estimated amounts of variable consideration that are constrained.

d. Asset recognized from costs to fulfill a contract with customer

As of December 31, 2020 and 2019, the Company recognized costs to fulfill engineering service contracts eligible for capitalization as other current assets which amounted to NT\$549 million and NT\$560 million, respectively. Subsequently, the Company will expense from costs to fulfill a contract to operating costs when the related obligations are satisfied.

(21) Operating Costs and Expenses

The Company's employee benefit, depreciation and amortization expenses are summarized as follows:

	For the years ended December 31,					
	2020		2019			
	Operating costs	Operating expenses	Operating costs	Operating expenses		
Employee benefit expenses				Total		
Salaries	\$20,367,325	\$9,412,151	\$29,779,476	\$17,712,792	\$24,822,224	
Labor and health insurance	1,061,848	452,848	1,514,696	911,037	395,571	1,306,608
Pension	1,138,429	379,298	1,517,727	1,066,877	361,281	1,428,158
Other employee benefit expenses	274,838	121,858	396,696	303,358	124,631	427,989
Depreciation	43,969,732	1,926,226	45,895,958	45,068,673	1,841,954	46,910,627
Amortization	895,732	1,848,651	2,744,383	848,214	1,368,440	2,216,654

According to UMC's Articles of Incorporation, the employees and directors' compensation shall be distributed in the following order:

UMC shall allocate no less than 5% of profit as employees' compensation and no more than 0.2% of profit as directors' compensation for each profitable fiscal year after offsetting any cumulative losses. The aforementioned employees' compensation will be distributed in shares or cash. The employees of UMC's subsidiaries who fulfill specific requirements stipulated by the Board of Directors may be granted such compensation. Directors may only receive compensation in cash. UMC may, by a resolution adopted by a majority vote at a meeting of the Board of Directors attended by two-thirds of the total number of directors, distribute the aforementioned employees and directors' compensation and report to the stockholders' meeting for such distribution.

The Company recognizes the employees and directors' compensation in the profit or loss during the periods when earned for the years ended December 31, 2020 and 2019. The Board of Directors estimates the amount by taking into consideration the Articles of Incorporation, government regulations and industry averages. If the Board of Directors resolves to distribute employee compensation through stock, the number of stock distributed is calculated based on total employee compensation divided by the closing price of the day before the Board of Directors meeting. If the Board of Directors subsequently modifies the estimates significantly, the Company will recognize the change as an adjustment in the profit or loss in the subsequent period.

The distributions of employees and directors' compensation for 2019 were reported to the stockholders' meeting on June 10, 2020, while the distributions of employees and directors' compensation for 2020 were approved through the Board of Directors meeting on February 24, 2021. The details of distribution are as follows:

	2020	2019
Employees' compensation – Cash	\$2,581,675	\$1,132,952
Directors' compensation	32,369	10,259

The aforementioned employees and directors' compensation for 2019 reported during the stockholders' meeting were consistent with the resolutions of the Board of Directors meeting held on February 26, 2020.

Information relevant to the aforementioned employees and directors' compensation can be obtained from the "Market Observation Post System" on the website of the TWSE.

(22) Net Other Operating Income and Expenses

	For the years ended December 31,	
	2020	2019
Government grants	\$5,179,643	\$5,366,907
Rental income from property	198,860	200,351
Gain on disposal of property, plant and equipment	1,137,320	43,036
Impairment loss		
Property, plant and equipment	-	(84,974)
Goodwill	-	(7,398)
Others	(261,933)	(335,760)
Total	\$6,253,890	\$5,182,162

(23) Non-Operating Income and Expenses

a. Other gains and losses

	For the years ended December 31,	
	2020	2019
Gain on valuation of financial assets and liabilities at fair value through profit or loss	\$2,011,403	\$1,279,931
Impairment loss	-	(25,762)
Investments accounted for under the equity method	(60,940)	(16,293)
Loss on disposal of investments	(1,962,137)	19,423
Others	\$ (11,674)	\$ 1,257,299
Total	\$ (11,674)	\$ 1,257,299

The Company recognized the losses for the charges brought by the U.S. Department of Justice regarding allegation of conspiracy to engage in theft of trade secrets. Please refer to Note 9(6).

b. Finance costs

	For the years ended December 31,	
	2020	2019
Interest expenses	\$377,193	\$672,902
Bonds payable	1,417,028	1,808,633
Bank loans	154,730	178,112
Lease liabilities	55,467	274,168
Others	69,015	63,828
Financial expenses	\$2,073,433	\$2,997,643
Total	\$2,073,433	\$2,997,643

(24) Components of Other Comprehensive Income (Loss)

	For the years ended December 31, 2020				
	Arising during the period	Reclassification adjustments during the period	Other comprehensive income (loss) before tax	Income tax effect	Other comprehensive income (loss) net of tax
Items that will not be reclassified subsequently to profit or loss:					
Remeasurements of defined benefit pension plans	\$(192,581)	\$-	\$(192,581)	\$38,516	\$(154,065)
Unrealized gains or losses from equity instruments	4,815,361	-	4,815,361	15,805	4,831,166
Investments measured at fair value through other comprehensive income	2,824,216	-	2,824,216	103	2,824,319
Share of other comprehensive income (loss) of associates and joint ventures which will not be reclassified					
Items that may be reclassified subsequently to profit or loss:					
Exchange differences on translation of foreign operations	(2,917,361)	(2,919)	(2,920,280)	34,708	(2,885,572)
Share of other comprehensive income (loss) of associates and joint ventures which may be reclassified	37,378	22,843	60,221	9,465	69,686
Items that will not be reclassified subsequently to profit or loss					
Total other comprehensive income (loss)	\$4,567,013	\$19,924	\$4,586,937	\$98,597	\$4,685,534

(25) Income Tax

a. The major components of income tax expense (benefit) for the years ended December 31, 2020 and 2019 were as follows:

	For the years ended	
	December 31, 2020	2019
i. Income tax expense (benefit) recorded in profit or loss		
Current income tax expense (benefit):		
Current income tax charge	\$1,259,721	\$622,394
Adjustments in respect of current income tax of prior periods	(1,140,060)	(1,033,780)
Deferred income tax expense (benefit):		
Deferred income tax related to origination and reversal of temporary differences	46,156	468,407
Deferred income tax related to recognition and derecognition of tax losses and unused tax credits	827,859	(243,981)
Adjustment of prior year's deferred income tax	(246,173)	121,189
Deferred income tax arising from write-down or reversal of write-down of deferred tax assets	(1,736)	(327,359)
Income tax expense recorded in profit or loss	<u>\$745,767</u>	<u>\$(393,130)</u>

ii. Income tax related to components of other comprehensive income (loss)

(i) Items that will not be reclassified subsequently to profit or loss:

	For the years ended	
	December 31, 2020	2019
Remeasurements of defined benefit pension plans	\$38,516	\$(21,281)
Unrealized gains or losses from equity instruments investments measured at fair value through other comprehensive income	15,805	(136,979)
Share of other comprehensive income (loss) of associates and joint ventures which will not be reclassified subsequently to profit or loss	103	-
Income tax related to items that will not be reclassified subsequently to profit or loss	<u>\$54,424</u>	<u>\$(158,260)</u>

(ii) Items that may be reclassified subsequently to profit or loss:

	For the years ended December 31, 2019		
	Arising during the period	Reclassification adjustments during the period	Other comprehensive income (loss), net of tax
Items that will not be reclassified subsequently to profit or loss:			
Remeasurements of defined benefit pension plans	\$106,403	\$-	\$85,122
Unrealized gains or losses from equity instruments investments measured at fair value through other comprehensive income	5,486,209	-	5,349,230
Share of other comprehensive income (loss) of associates and joint ventures which will not be reclassified subsequently to profit or loss	1,231,722	-	1,231,722
Items that may be reclassified subsequently to profit or loss:			
Exchange differences on translation of foreign operations	(3,292,023)	14,085	(3,264,536)
Share of other comprehensive income (loss) of associates and joint ventures which may be reclassified subsequently to profit or loss	8,754	6,594	7,247
Total other comprehensive income (loss)	<u>\$3,541,065</u>	<u>\$20,679</u>	<u>\$3,408,785</u>

(ii) Items that may be reclassified subsequently to profit or loss:

	For the years ended December 31,	
	2020	2019
Exchange differences on translation of foreign operations	\$34,708	\$13,402
Share of other comprehensive income (loss) of associates and joint ventures which may be reclassified subsequently to profit or loss	9,465	(8,101)
Income tax related to items that may be reclassified subsequently to profit or loss	\$44,173	\$5,301

iii. Deferred income tax charged directly to equity

	For the years ended December 31,	
	2020	2019
Recognize (reversal) of temporary difference arising from initial recognition of the equity component of the compound financial instrument	\$3,691	\$(45)
Gains or losses on hedging instruments which will not be reclassified subsequently to profit or loss	-	(514)
Deferred income tax charged directly to equity	\$3,691	\$(559)

b. A reconciliation between income tax expense (benefit) and income before tax at UMC's applicable tax rate was as follows:

	For the years ended December 31,	
	2020	2019
Income before tax	\$27,926,179	\$5,735,637
At UMC's statutory income tax rate	5,585,236	1,147,128
Adjustments in respect of current income tax of prior periods	(1,140,060)	(1,033,780)
Net changes in loss carry-forward and investment tax credits	592,348	1,911,970
Adjustment of deferred tax assets/liabilities for write-downs/reversals and different jurisdictional tax rates	(505,537)	(146,067)

For the years ended
December 31,

	2020	2019
Tax effect of non-taxable income and non-deductible expenses:		
Tax exempt income	\$(2,500,688)	\$(1,778,820)
Investment gain	(1,511,065)	(477,043)
Dividend income	(130,672)	(139,093)
Others	32,268	110,991
Basic tax	2,803	3,215
Effect of different tax rates applicable to UMC and its subsidiaries	(191,687)	(102,608)
Taxes withheld in other jurisdictions	25,193	19,749
Others	487,628	91,228
Income tax benefit recorded in profit or loss	\$745,767	\$(393,130)

c. Significant components of deferred income tax assets and liabilities are as follows:

	As of December 31,	
	2020	2019
Deferred income tax assets		
Depreciation	\$2,116,855	\$1,658,688
Loss carry-forward	685,531	1,310,300
Pension	828,410	800,734
Refund liabilities	240,165	339,185
Allowance for inventory valuation losses	595,910	628,725
Investment loss	225,304	257,689
Unrealized profit on intercompany sales	1,348,202	1,568,645
Investment tax credits	331,174	475,952
Others	461,160	767,665
Total deferred income tax assets	6,832,711	7,807,583

Deferred income tax liabilities		
Unrealized exchange gain	(559,334)	(565,175)
Depreciation	(156,000)	(550,772)
Investment gain	(599,389)	(568,683)
Convertible bond option	-	(69,484)
Amortizable assets	(316,049)	(321,459)
Others	(687)	(11,793)
Total deferred income tax liabilities	(1,631,459)	(2,087,366)
Net deferred income tax assets	\$5,201,252	\$5,720,217

d. Movement of deferred tax

	For the years ended	
	December 31,	
	2020	2019
Balance as of January 1	\$5,720,217	\$4,422,216
Impact of retroactive applications	-	93
Adjusted balance as of January 1	5,720,217	4,422,309
Acquisition from business combinations	-	1,542,895
Amounts recognized in profit or loss during the period	(626,106)	(18,256)
Amounts recognized in other comprehensive income (loss)	98,597	(152,959)
Amounts recognized in equity	3,691	(559)
Exchange adjustments	4,853	(73,213)
Balance as of December 31	\$5,201,252	\$5,720,217

e. The Company is subject to taxation in Taiwan and other foreign jurisdictions. As of December 31, 2020, income tax returns of UMC and its subsidiaries in Taiwan have been examined by the tax authorities through 2017, while in other foreign jurisdictions, relevant tax authorities have completed the examination through 2012. There is an uncertain tax position that the outcome of the income tax returns of certain companies within the Company may not be accepted by the tax authorities of the respective countries of operations. For the recognition and measurement of deferred income tax and current income tax which involved significant accounting judgments, estimates and assumptions, please refer to Note 5(5).

f. UMC was granted income tax exemption for several periods with respect to income derived from the expansion of operations. The income tax exemption had expired on December 31, 2020.

g. The information of the unused tax loss carry-forward for which no deferred income tax assets have been recognized is as follows:

Expiry period	As of December 31,	
	2020	2019
1~5 years	\$40,910,279	\$38,708,327
6~10 years	2,674,422	9,588,002
Total	\$43,584,701	\$48,296,329

h. As of December 31, 2020 and 2019, deductible temporary differences for which no deferred income tax assets have been recognized amounted to NT\$2,942 million and NT\$2,881 million, respectively.

i. As of December 31, 2020 and 2019, the taxable temporary differences of unrecognized deferred tax liabilities associated with investments in subsidiaries amounted to NT\$11,463 million and NT\$11,389 million, respectively.

(26) Earnings Per Share

a. Earnings per share-basic

	For the years ended	
	December 31,	
	2020	2019
Net income attributable to the parent company	\$29,189,489	\$9,707,614
Weighted-average number of ordinary shares for basic earnings per share (thousand shares)	12,072,969	11,785,108
Earnings per share-basic (NTD)	\$2.42	\$0.82

b. Earnings per share-diluted

	For the years ended	
	December 31,	
	2020	2019
Net income attributable to the parent company	\$29,189,489	\$9,707,614
Effect of dilution		
Unsecured convertible bonds	69,019	289,121
Income attributable to stockholders of the parent	\$29,258,508	\$9,996,735
Weighted-average number of common stocks for basic earnings per share (thousand shares)	12,072,969	11,785,108
Effect of dilution		
Restricted stocks for employees	30,911	-
Employees' compensation	65,657	90,047
Unsecured convertible bonds	303,630	1,295,729
Weighted-average number of common stocks after dilution (thousand shares)	12,473,167	13,170,884
Earnings per share-diluted (NTD)	\$2.35	\$0.76

(27) Reconciliation of Liabilities Arising from Financing Activities

For the year ended December 31, 2020:

Items	As of January 1, 2020	Cash Flows	Non-cash changes		As of December 31, 2020
			Foreign exchange	Others (Note A)	
Short-term loans	\$12,015,206	\$(933,392)	\$(75,751)	\$51,069	\$11,057,132
Long-term loans (current portion included)	33,902,074	136,920	(972,888)	-	33,066,106
Bonds payable (current portion included)	38,781,416	(13,702,875)	-	(6,388,157) (Note B)	18,690,384
Guarantee deposits (current portion included)	296,694	(59,819)	(883)	-	235,992
Lease liabilities	6,031,025	(726,626)	(10,036)	282,501	5,576,864
Other financial liabilities-noncurrent	20,093,441	-	281,219	371,964	20,746,624

For the year ended December 31, 2019:

Items	As of January 1, 2019	Cash Flows	Non-cash changes		As of December 31, 2019
			Foreign exchange	Others (Note A)	
Short-term loans	\$13,103,808	\$(993,723)	\$(368,507)	\$273,628	\$12,015,206
Long-term loans (current portion included)	30,826,215	3,876,991	(802,975)	1,843	33,902,074
Bonds payable (current portion included)	41,378,182	(2,500,000)	-	(96,766)	38,781,416
Guarantee deposits (current portion included)	665,793	252,269	(2,021)	(619,347)	296,694
Lease liabilities	6,006,457	(633,488)	(78,432)	736,488 (Note C)	6,031,025
Other financial liabilities-noncurrent	20,410,355	-	(698,127)	381,213	20,093,441

Note A: Other non-cash changes mainly consisted of discount amortization measured by the effective interest method.

Note B: Please refer to Note 6(13) for the Company's convertible bonds.

Note C: Including the impact from acquisition of a subsidiary.

Note D: Please refer to Note 9(5) for more details on other financial liabilities-noncurrent.

(28) Business Combinations

UNITED SEMICONDUCTOR JAPAN CO., LTD. (USJC)

The Company exercised the call option of a joint venture agreement between FUJI SEMICONDUCTOR LIMITED (FSL) to acquire 84.1% ownership interest in MIE FUJITSU SEMICONDUCTOR LIMITED (MIFS) for JPY 54.4 billion on October 1, 2019. The Company previously held 15.9% of ownership interest in MIFS. MIFS became a wholly-owned subsidiary of the Company and was renamed as USJC upon completion of the acquisition. USJC is a 300mm fab in Japan that is currently manufacturing 90nm, 65nm and 40nm products. The fab fits the Company's specialty technology focus and long-term growth projections. USJC will increase the Company's foundry market share, provide business synergies and benefit from economies of scale while broadening the Company's comprehensive specialty and logic technologies to serve Japanese and international customers.

Consideration Transferred:

Cash	\$15,711,370
Fair value of previously held equity interest immediately before acquisition	2,303,988
Gains or losses on hedging instruments	2,572
Total	<u>\$18,017,930</u>
Cash flows analysis of acquisition:	
Cash Consideration	\$15,711,370
Net cash acquired from the subsidiary	(2,910,389)
Net cash outflows from acquisition	<u>\$12,800,981</u>

The fair value of the identifiable assets and liabilities of USJC as of the date of acquisition were:

	Fair value recognized on the acquisition date
Assets	
Cash and cash equivalents	\$2,910,389
Accounts receivable	3,561,827
Inventories	2,428,616
Property, plant and equipment	11,497,618
Right-of-use assets	479,547
Intangible assets	1,318,754
Deferred tax assets	1,563,553
Others	230,431
	<u>23,990,735</u>
Liabilities	
Accounts payable	(3,170,323)
Other payables and payables on equipment	(1,962,119)
Lease liabilities	(479,547)
Others	(189,231)
	<u>(5,801,220)</u>
Total identifiable net assets	<u>\$18,189,515</u>
Gain on bargain purchase:	\$18,017,930
Consideration transferred	(18,189,515)
Less: Fair value of identifiable net assets	<u>\$ (171,585)</u>
Bargain purchase gain	

The fair value of the net identifiable assets acquired and liabilities assumed was in excess of the aggregate consideration transferred and the previously held ownership interest of 15.9% in USJC at the acquisition date, and the difference was recognized as bargain purchase gain. The previously held ownership interest of 15.9% in USJC was previously accounted for as financial assets at fair value through other comprehensive income, non-current. It was subsequently remeasured at fair value with the consideration for a minority interest discount on the acquisition date resulting in the bargain purchase gain. Upon the acquisition, the Company recognized a loss on disposal of NT\$375 million and the accumulated unrealized losses on the previously held ownership interest was reclassified from other comprehensive income to retained earnings for the year ended December 31, 2019.

Upon the acquisition, USJC contributed NT\$4,277 million of operating revenues and NT\$305 million to profit before tax from continuing operations of the Company, respectively, for the year ended December 31, 2019. If the combination had taken place at the beginning of the year, operating revenues from the continuing operations would have been NT\$160,767 million and the profit before tax from continuing operations for the Company would have been NT\$6,535 million, respectively, for the year ended December 31, 2019.

(29) Deconsolidation of Subsidiaries

NEXPOWER TECHNOLOGY CORP. (NEXPOWER)

NEXPOWER, the subsidiary of UMC, was resolved for dissolution and liquidation by the stockholder's meeting on November 11, 2020 and the liquidator took control on the same day. According to IFRS 10 and related questions and answers issued, the Company has lost control over NEXPOWER and therefore derecognized its relevant assets and liabilities at the date when the control was lost.

a. Derecognized assets and liabilities mainly consisted of:

Assets	
Cash and cash equivalents	\$776,586
Others current assets	18
	<u>776,604</u>
Liabilities	
Other payables	(194)
	<u>(194)</u>
Net assets of deconsolidation	<u>\$776,410</u>

b. Consideration received and gain recognized from the deconsolidation:

Receivable from liquidation consideration (Note A)	\$724,845
Less: Net assets of the deconsolidation	(776,410)
Add: Non-controlling interests	51,565
Other comprehensive income from equity reclassified to profit or loss due to derecognition	4,061
Gain on deconsolidation (Note B)	<u>\$4,061</u>

Note A: NEXPOWER was deconsolidated when the control was lost. The company has not received liquidation consideration.

Note B: Gain on deconsolidation for the year ended December 31, 2020 was recognized as other gains and losses in the consolidated statement of comprehensive income.

The sales price to the above related parties was determined through mutual agreement in reference to market conditions. The collection period for domestic sales to related parties were month-end 30-60 days, while the collection period for overseas sales was net 30-60 days.

Refund liabilities (classified under other current liabilities)

	As of December 31,	
	2020	2019
Associates	\$1,186	\$7,880
Others	36	48
Total	<u>\$1,222</u>	<u>\$7,928</u>

b. Significant asset transactions

Acquisition of financial assets at fair value through profit or loss, noncurrent

	Trading Volume (In thousands of shares)	Transaction underlying	For the year ended December 31, 2020
Associates	1,000	Stock of WELLYSUN INC.	\$25,000

	Trading Volume (In thousands of shares)	Transaction underlying	Purchase price For the year ended December 31, 2019
Associates	500	Stock of MATERIALS ANALYSIS TECHNOLOGY INC.	\$32,923

	Trading Volume (In thousands of shares)	Transaction underlying	Purchase price For the year ended December 31, 2019
Associates	1,900	Stock of GEAR RADIO LTD.	37,211
Total			<u>\$70,134</u>

c. Analysis of net cash outflow arising from deconsolidation of the subsidiary:

Cash received	\$-
Net cash of subsidiary derecognized	<u>(776,586)</u>
Net cash outflow from deconsolidation	<u>\$ (776,586)</u>

7. RELATED PARTY TRANSACTIONS

The following is a summary of transactions between the Company and related parties during the financial reporting periods:

(1) Name and Relationship of Related Parties

Name of related parties	Relationship with the Company
FARADAY TECHNOLOGY CORP. and its Subsidiaries	Associate
HSUN CHIEH INVESTMENT CO., LTD.	Associate
HSUN CHIEN CAPITAL CORP.	Associate
TRIKNIGHT CAPITAL CORPORATION	Associate
UNIMICRON TECHNOLOGY CORP.	Associate
SILICON INTEGRATED SYSTEMS CORP.	The Company's director
PHOTRONICS DNP MASK CORPORATION	Other related parties
UNITEDVISION SEMICONDUCTOR CO., LTD.	Other related parties
UPI SEMICONDUCTOR CORP.	Other related parties
UNISTARS CORPORATION	Other related parties

(2) Significant Related Party Transactions

a. Operating transactions

Operating revenues

	For the years ended December 31,	
	2020	2019
Associates	\$2,085,425	\$1,532,339
Others	26,856	45,523
Total	<u>\$2,112,281</u>	<u>\$1,577,862</u>

Accounts receivable, net

	As of December 31,	
	2020	2019
Associates	\$172,808	\$278,702
Others	6,110	11,243
Total	<u>\$178,918</u>	<u>\$289,945</u>

8. ASSETS PLEDGED AS COLLATERAL

The following table lists assets of the Company pledged as collateral:

Items	Carrying Amount		Party to which asset(s) was pledged	Purpose of pledge
	2020	2019		
Refundable Deposits (Time deposit)	\$811,072	\$811,035	Customs	Customs duty guarantee
Refundable Deposits (Time deposit)	234,286	348,117	Science Park Bureau	Collateral for land lease
Refundable Deposits (Time deposit)	18,215	19,510	Science Park Bureau	Collateral for dormitory lease
Refundable Deposits (Time deposit)	41,785	41,785	Liquefied Natural Gas Business Division, CPC Corporation, Taiwan	Energy resources guarantee
Refundable Deposits (Time deposit)	1,000,000	1,000,000	Bank of China	Bank performance guarantee
Buildings	5,310,769	5,381,590	Taiwan Cooperative Bank and Secured Syndicated Loans from China Development Bank and 6 others	Collateral for long-term loans
Machinery and equipment	21,370,450	19,029,077	Taiwan Cooperative Bank, Mega International Commercial Bank and Secured Syndicated Loans from China Development Bank and 6 others	Collateral for long-term loans
Transportation equipment	3,174	-	Secured Syndicated Loans from China Development Bank and 6 others	Collateral for long-term loans
Furniture and fixtures	281,663	-	Secured Syndicated Loans from China Development Bank and 6 others	Collateral for long-term loans
Right-of-use assets	289,552	292,120	Secured Syndicated Loans from China Development Bank and 6 others	Collateral for long-term loans
Total	\$29,360,966	\$26,923,234		

Acquisition of investments accounted for under the equity method

For the year ended December 31, 2020: None.

Associates	Trading Volume (In thousands of shares)	Transaction underlying Stock	Purchase price For the year ended December 31, 2019
	72,000		

Acquisition of intangible assets

Associates	Purchase price For the years ended December 31,	
	2020	\$335,425
	2019	\$339,463

c. Others

Mask expenditure

Others	For the years ended December 31,	
	2020	\$1,811,827
	2019	\$2,346,263

Other payables of mask expenditure

Others	As of December 31,	
	2020	\$532,810
	2019	\$683,892

d. Key management personnel compensation

Short-term employee benefits Post-employment benefits Termination benefits Share-based payment Others	For the years ended December 31,	
	2020	\$435,251
	2019	\$271,135
		2,406
		283
		365,666
		571
Total	\$804,229	\$339,737

9. SIGNIFICANT CONTINGENCIES AND UNRECOGNIZED CONTRACT COMMITMENTS

On December 5, 2017, MICRON filed a civil action with similar cause against UMC with the United States District Court, Northern District of California. MICRON claimed entitlement to the actual damages, treble damages and relevant fees and requested the court to issue an order that enjoins UMC from using its trade secrets in question. UMC has appointed counsels to prepare answers against these charges. Currently the civil complaint has been stayed by the court.

On January 12, 2018, UMC filed three patent infringement actions with the Fuzhou Intermediate People's Court against, among others, MICRON (XI'AN) CO., LTD. and MICRON (SHANGHAI) TRADING CO., LTD., requesting the court to order the defendants to stop manufacturing, processing, importing, selling, and committing to sell the products deploying the infringing patents in questions, and also to destroy all inventories and related molds and tools. On July 3, 2018, the Fuzhou Intermediate People's Court granted preliminary injunction against the aforementioned two defendants, holding that the two defendants must immediately cease to manufacture, sell, and import products that infringe the patent rights of UMC. The court approved withdrawal of one of the patent infringement actions on our motion while the other two actions are still on trial.

On November 1, 2018, the Department of Justice of the United States ("DOJ") unsealed an indictment against UMC, FUJIAN JINHUA INTEGRATED CIRCUIT CO., LTD. ("JINHUA"), and three individuals, including one current employee and two former employees of UMC, alleging that UMC and others conspired to steal trade secrets of MICRON, and used that information to develop technology that was subsequently transferred to JINHUA. On the same day, the DOJ filed a civil complaint enjoining the aforementioned defendants from exporting to the United States any products containing DRAM manufactured by UMC or JINHUA and preventing the defendants from transferring the trade secrets to anyone else. Besides, UMC has suspended the joint technology development activities with JINHUA. With respect to the criminal proceedings, on October 22, 2020, UMC filed a sentencing memorandum with the court, proposing to plead guilty to a lesser charge and to pay a fine of US\$60 million. On October 29, 2020, the court approved the above-mentioned sentencing memorandum submitted by UMC. The parallel civil suit will be dismissed. UMC has recorded the fine in non-operating other losses.

(7) On March 14, 2019, a putative class action styled Meyer v. United Microelectronics Corporation and several executives, was filed under Securities Exchange Act of 1934 and Rule 10b-5 in the United States District Court for the Southern District of New York. The court appointed a lead plaintiff and approved lead plaintiff counsels on May 23, 2019. On September 27, 2019, UMC received the service of plaintiffs' amended complaint and appointed counsels to prepare the relevant procedures. Currently the mediation process has been completed and now under trial. The Company does not expect material financial impact resulting from this claim.

(1) As of December 31, 2020, amounts available under unused letters of credit for importing machinery and equipment were NT\$ 0.6 billion.

(2) As of December 31, 2020, the Company entrusted financial institutes to open performance guarantee, mainly related to the litigations and customs tax guarantee, amounting to NT\$ 1.6 billion.

(3) The Company entered into several patent license agreements and development contracts of intellectual property for a total contract amount of approximately NT\$ 3.7 billion. As of December 31, 2020, the portion of royalties and development fees not yet recognized was NT\$ 1.0 billion.

(4) The Company entered into several construction contracts for the expansion of its operations. As of December 31, 2020, these construction contracts amounted to approximately NT\$ 1.1 billion and the portion of the contracts not yet recognized was approximately NT\$ 0.5 billion.

(5) The Board of Directors of UMC resolved in October 2014 to participate in a 3-way agreement with Xiamen Municipal People's Government and FUJIAN ELECTRONIC & INFORMATION GROUP to form a company which will focus on 12" wafer foundry services. The Company obtained R.O.C. government authority's approval for the investment and invested RMB 8.3 billion in USXCM in instalments from January 2015 to September 2018, according to the agreement that the Company obtained the ability to exercise control. Furthermore, based on the agreement, UMC recognized a financial liability in other noncurrent liabilities-others for the purchase from the other investors of their investments in USXCM at their original investment cost plus interest totally amounting to RMB 4.9 billion, beginning from the seventh year (2022) following the last instalment payment made by the other investors. Accordingly, the Company recognizes non-controlling interests as required by IFRS 10 during the reporting period. At the end of each reporting period, the Company recognizes a financial liability for its commitment to the other investors in accordance with IFRS 9, at the same time derecognizing the non-controlling interests. Any difference between the financial liability and the non-controlling interests balance is recognized in equity.

(6) On August 31, 2017, the Taichung District Prosecutors Office indicted UMC based on the Trade Secret Act of R.O.C., alleging that employees of UMC misappropriated the trade secrets of MICRON TECHNOLOGY, INC. ("MICRON"). On June 12, 2020, an adverse ruling issued by the District Court of Taichung in a suit alleged that UMC, two of its current employees and a former employee engaged in the misappropriation of trade secrets. The Company does not expect material financial impact resulting from this claim. UMC intends to appeal against the sentence.

10. SIGNIFICANT DISASTER LOSS

None.

11. SIGNIFICANT SUBSEQUENT EVENTS

None.

12. OTHERS(1) Categories of financial instruments

	As of December 31,	
	2020	2019
<u>Financial Assets</u>		
Financial assets at fair value through profit or loss	\$16,042,721	\$14,021,473
Financial assets at fair value through other comprehensive income	10,526,144	14,723,232
Financial assets measured at amortized cost		
Cash and cash equivalents (excludes cash on hand)	94,042,271	95,486,403
Receivables	28,942,147	26,383,212
Refundable deposits	2,310,961	2,600,733
Other financial assets	14,386,131	2,353,066
Total	\$166,250,375	\$155,568,119
<u>Financial Liabilities</u>		
Financial liabilities at fair value through profit or loss	\$2,326	\$-
Financial liabilities measured at amortized cost		
Short-term loans	11,057,132	12,015,206
Payables	31,188,794	27,342,495
Guarantee deposits (current portion included)	235,992	296,694
Bonds payable (current portion included)	18,690,384	38,781,416
Long-term loans (current portion included)	33,066,106	33,902,074
Lease liabilities	5,576,864	6,031,025
Other financial liabilities	20,746,624	20,093,441
Total	\$120,564,222	\$138,462,351

(2) Financial risk management objectives and policies

The Company's risk management objectives are to manage the market risk, credit risk and liquidity risk related to its operating activities. The Company identifies, measures and manages the aforementioned risks based on policy and risk preference.

The Company has established appropriate policies, procedures and internal controls for financial risk management. Before entering into significant financial activities, approval process by the Board of Directors and Audit Committee must be carried out based on related protocols and internal control procedures. The Company complies with its financial risk management policies at all times.

(3) Market risk

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risks comprise currency risk, interest rate risk and other price risk (such as equity price risk).

Foreign currency risk

The Company's exposure to the risk of changes in foreign exchange rates relates primarily to the Company's operating activities (when revenue or expense is denominated in a different currency from the Company's functional currency) and the Company's net investments in foreign subsidiaries.

The Company applies natural hedges on the foreign currency risk arising from purchases or sales, and utilizes spot or forward exchange contracts to manage foreign currency risk and the net effect of the risks related to monetary financial assets and liabilities is minor. The notional amounts of the foreign currency contracts are the same as the amount of the hedged items. In principle, the Company does not carry out any forward exchange contracts for uncertain commitments. The Company designates certain forward currency contracts as cash flow hedges to hedge its exposure to foreign currency exchange risk associated with certain highly probable forecast transactions. On the basis of assessment, the Company expects that the value of forward currency exchange contracts and the value of the hedged transactions will change systematically in opposite directions for given changes in foreign exchange rates. Hedge ineffectiveness in these hedging relationships mainly arises from the counterparties' credit risk, impacting the fair value movements of the hedging instruments and hedged items. No other sources of ineffectiveness emerged from these hedging relationships. Furthermore, as net investments in foreign subsidiaries are for strategic purposes, they are not hedged by the Company.

Certain forward exchange contracts designated by the Company to hedge foreign currency exchange rate risks associated with the purchase of additional shares of USJC in JPY, amounting to JPY 2.3 billion, expired prior to December 31, 2018. The cash flow hedge reserve in other components of equity, amounting to NT\$(3) million, was recognized as consideration for the ownership interest of 84.1% in USJC on October 1, 2019. Please refer to Note 6(28).

The foreign currency sensitivity analysis of the possible change in foreign exchange rates on the Company's profit is performed on significant monetary items denominated in foreign currencies as of the end of the reporting period. When NTD strengthens/weakens against USD by 10%, the profit for the years ended December 31, 2020 and 2019 decreases/increases by NT\$1,336 million and NT\$1,009 million, respectively. When RMB strengthens/weakens against USD by 10%, the profit for the years ended December 31, 2020 and 2019 increases/decreases by NT\$1,625 million and NT\$2,200 million, respectively. When JPY strengthens/weakens against USD by 10%, the profit for the years ended December 31, 2020 and 2019 decreases/increases by NT\$473 million and NT\$430 million, respectively.

(6) Foreign currency risk management

UMC entered into forward exchange contracts for hedging the exchange rate risk arising from the net monetary assets or liabilities denominated in foreign currency. The details of forward exchange contracts entered into by UMC are summarized as follows:

As of December 31, 2020

Type	Notional Amount	Contract Period
Forward exchange contracts	Sell USD 82 million	December 11, 2020~February 05, 2021

As of December 31, 2019

None.

(7) Fair value of financial instruments

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either in the principal market for the asset or liability, or in the absence of a principal market, in the most advantageous market for the asset or liability.

The principal or the most advantageous market must be accessible by the Company.

The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

The Company uses valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs.

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorized within the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

- Level 1 — Quoted (unadjusted) market prices in active markets for identical assets or liabilities;
- Level 2 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observable;
- Level 3 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable.

For assets and liabilities that are recognized in the financial statements on a recurring basis, the Company determines whether transfers have occurred between levels in the hierarchy by re-assessing categorization (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

a. Assets and liabilities measured and recorded at fair value on a recurring basis:

	As of December 31, 2020		
	Level 1	Level 2	Level 3
Financial assets:			Total
Financial assets at fair value through profit or loss, current	\$1,049,334	\$2,384	\$164,916
Financial assets at fair value through profit or loss, noncurrent	5,546,320	393,856	8,885,911
Financial assets at fair value through other comprehensive income, noncurrent	9,058,372	-	1,467,772
Financial liabilities:			
Financial liabilities at fair value through profit or loss, current	-	2,326	-

	As of December 31, 2019		
	Level 1	Level 2	Level 3
Financial assets:			Total
Financial assets at fair value through profit or loss, current	\$668,476	\$-	\$54,318
Financial assets at fair value through profit or loss, noncurrent	4,737,027	340,255	8,221,397
Financial assets at fair value through other comprehensive income, noncurrent	13,417,308	-	1,305,924

Fair values of financial assets at fair value through profit or loss and financial assets at fair value through other comprehensive income that are categorized into level 1 are based on the quoted market prices in active markets. If there is no active market, the Company estimates the fair value by using the valuation techniques (income approach and market approach) in consideration of cash flow forecast, recent fund raising activities, valuation of similar companies, individual company's development, market conditions and other economic indicators.

If there are restrictions on the sale or transfer of a financial asset, which are a characteristic of the asset, the fair value of the asset will be determined based on similar but unrestricted financial assets' quoted market price with appropriate discounts for the restrictions. To measure fair values, if the lowest level input that is significant to the fair value measurement is directly or indirectly observable, then the financial assets are classified as Level 2 of the fair value hierarchy, otherwise as Level 3.

During the years ended December 31, 2020 and 2019, there were no significant transfers between Level 1 and Level 2 fair value measurements.

Reconciliation for fair value measurement in Level 3 fair value hierarchy is as follows:

	Financial assets at fair value through profit or loss				Financial assets at fair value through other comprehensive income			
	Common stock	Preferred stock	Funds	Convertible bonds	Common stock	Preferred stock		
As of January 1, 2020	\$2,880,688	\$3,279,294	\$2,011,025	\$104,708	\$8,275,715	\$1,130,430	\$175,494	\$1,305,924
Recognized in profit (loss)	589,664	180,523	19,611	39,648	829,446	-	-	-
Recognized in other comprehensive income (loss)	-	-	-	-	-	167,197	(5,349)	161,848
Acquisition	547,932	294,251	340,323	303,456	1,485,962	-	-	-
Disposal	(308,041)	(374,112)	-	(227,223)	(909,376)	-	-	-
Return of capital	(1,903)	-	-	-	(1,903)	-	-	-
Transfer out of Level 3	(428,188)	-	-	-	(428,188)	-	-	-
Exchange effect	(38,674)	(100,953)	(56,943)	(4,259)	(200,829)	-	-	-
As of December 31, 2020	\$3,241,478	\$3,279,003	\$2,314,016	\$216,330	\$9,050,827	\$1,297,627	\$170,145	\$1,467,772

	Financial assets at fair value through profit or loss				Financial assets at fair value through other comprehensive income			
	Common stock	Preferred stock	Funds	Convertible bonds	Common stock	Preferred stock		
As of January 1, 2019	\$3,077,691	\$2,971,528	\$1,849,788	\$-	\$7,899,007	\$3,235,174	\$184,026	\$3,419,200
Recognized in profit (loss)	(272,299)	273,047	(14,024)	6,145	(7,131)	-	-	-
Recognized in other comprehensive income (loss)	-	-	-	-	-	199,244	(8,532)	190,712
Acquisition	159,476	396,890	204,082	51,956	812,404	-	-	-
Disposal	(1,475)	(328,371)	-	-	(329,846)	(2,303,988)	-	(2,303,988)
Return of capital	(14,954)	-	-	-	(14,954)	-	-	-
Transfer to Level 3	-	-	-	49,706	49,706	-	-	-
Transfer out of Level 3	(53,300)	-	-	-	(53,300)	-	-	-
Exchange effect	(14,451)	(33,800)	(28,821)	(3,099)	(80,171)	-	-	-
As of December 31, 2019	\$2,880,688	\$3,279,294	\$2,011,025	\$104,708	\$8,275,715	\$1,130,430	\$175,494	\$1,305,924

The total profit (loss) of NT\$721 million and NT\$(113) million for the years ended December 31, 2020 and 2019, were included in profit or loss that is attributable to the change in unrealized gains or losses relating to those financial assets without quoted market prices held at the end of the reporting period.

The Company's policy to recognize the transfer into and out of fair value hierarchy levels is based on the event or changes in circumstances that caused the transfer.

Significant unobservable inputs of fair value measurement in Level 3 fair value hierarchy are as follows:

Category of equity securities	As of December 31, 2020				Sensitivity analysis of interrelationship between inputs and fair value
	Valuation technique	Significant unobservable inputs	Quantitative information	Interrelationship between inputs and fair value	
Unlisted stock	Market Approach	Discount for lack of marketability	0%~50%	The greater degree of lack of marketability, the lower the estimated fair value is determined	A change of 5% in the discount for lack of marketability of the aforementioned fair values of unlisted stocks could decrease/increase the Company's profit (loss) for year ended December 31, 2020 by NT\$283 million and NT\$231 million, respectively, and decrease/increase the Company's other comprehensive income (loss) for the year ended December 31, 2020 by NT\$(106 million.

As of December 31, 2019

Category of equity securities	Valuation technique	Significant unobservable inputs	Interrelationship between inputs and fair value	Sensitivity analysis of interrelationship between inputs and fair value
Unlisted stock	Market Approach	Discount for lack of marketability	The greater degree of lack of marketability, the lower the estimated fair value is determined.	A change of 5% in the discount for lack of marketability of the aforementioned fair values of unlisted stocks could decrease/increase the Company's profit (loss) for the year ended December 31, 2019 by NT\$267 million and NT\$191 million, respectively. Other comprehensive income (loss) for the year ended December 31, 2019 by NT\$87 million.

b. Assets and liabilities not recorded at fair value but for which fair value is disclosed:

The fair value of bonds payable is estimated by the market price or using a valuation model. The model uses market-based observable inputs including share price, volatility, credit spread and risk-free interest rates. The fair value of long-term loans is determined using discounted cash flow model, based on the Company's current incremental borrowing rates of similar loans.

The fair values of the Company's short-term financial instruments including cash and cash equivalents, receivables, refundable deposits, other financial assets-current, short-term loans, payables and guarantee deposits approximate their carrying amount due to their maturities within one year.

As of December 31, 2020

Items	Fair value	Fair value measurements during reporting period using			Carrying amount
		Level 1	Level 2	Level 3	
Bonds payables (current portion included)	\$18,861,597	\$18,861,597	\$-	\$-	\$18,690,384
Long-term loans (current portion included)	33,066,106	-	33,066,106	-	33,066,106

As of December 31, 2019

Items	Fair value	Fair value measurements during reporting period using			Carrying amount
		Level 1	Level 2	Level 3	
Bonds payables (current portion included)	\$39,571,920	\$21,347,047	\$18,224,873	\$-	\$38,781,416
Long-term loans (current portion included)	33,902,074	-	33,902,074	-	33,902,074

(8) Significant financial assets and liabilities denominated in foreign currencies

The following information was summarized by the foreign currencies other than the functional currency of the Company. The exchange rates disclosed were used to translate the foreign currencies into the functional currency. The significant financial assets and liabilities denominated in foreign currencies are as follows:

	As of December 31,				
	2020		2019		
	Foreign Currency (thousand)	Exchange Rate	Foreign Currency (thousand)	Exchange Rate	
<u>Financial Assets</u>					
<u>Monetary items</u>					
USD:NTD	\$711,855	28.43	\$20,238,047	30.03	\$19,181,035
RMB:NTD	1,957	4.355	8,525	4.296	7,109
SGD:USD	48,101	0.7559	1,033,694	0.7419	1,474,822
USD:RMB	182,252	6.5249	5,178,866	6.9762	7,705,833
USD:JPY	195,035	103.52	5,544,168	109.55	5,217,806
<u>Non-Monetary items</u>					
USD:NTD	143,991	28.43	4,093,667	30.03	3,826,103
<u>Financial Liabilities</u>					
<u>Monetary items</u>					
USD:NTD	241,111	28.53	6,878,910	30.13	6,644,079
RMB:NTD (Note C)	4,710,181	4.405	20,748,348	4.346	20,094,983
SGD:USD	87,190	0.7596	1,893,220	0.7454	1,851,568
USD:RMB	763,407	6.5249	21,941,982	6.9762	26,723,580
USD:JPY	29,542	103.52	852,317	109.55	1,106,693

13. ADDITIONAL DISCLOSURES

- (1) The following are additional disclosures for the Company and its affiliates as required by the R.O.C. Securities and Futures Bureau:
- a. Financing provided to others for the year ended December 31, 2020: Please refer to Attachment 2.
 - b. Endorsement/Guarantee provided to others for the year ended December 31, 2020: Please refer to Attachment 3.
 - c. Securities held as of December 31, 2020 (excluding subsidiaries, associates and joint venture): Please refer to Attachment 4.
 - d. Individual securities acquired or disposed of with accumulated amount exceeding the lower of NT\$300 million or 20 percent of the capital stock for the year ended December 31, 2020: Please refer to Attachment 5.
 - e. Acquisition of individual real estate with amount exceeding the lower of NT\$300 million or 20 percent of the capital stock for the year ended December 31, 2020: Please refer to Attachment 6.
 - f. Disposal of individual real estate with amount exceeding the lower of NT\$300 million or 20 percent of the capital stock for the year ended December 31, 2020: Please refer to Attachment 7.
 - g. Related party transactions for purchases and sales amounts exceeding the lower of NT\$100 million or 20 percent of the capital stock for the year ended December 31, 2020: Please refer to Attachment 8.
 - h. Receivables from related parties with amounts exceeding the lower of NT\$100 million or 20 percent of capital stock as of December 31, 2020: Please refer to Attachment 9.
 - i. Names, locations and related information of investees as of December 31, 2020 (excluding investment in Mainland China): Please refer to Attachment 10.

Note A : The foreign currency transactions mentioned above are expressed in terms of the amount before elimination.

Note B : Please refer to the consolidated statements of comprehensive income for the total of realized and unrealized foreign exchange gain and loss. Since there were varieties of foreign currency transactions and functional currencies within the subsidiaries of the Company, the Company was unable to disclose foreign exchange gain (loss) towards each foreign currency with significant impact.

Note C : Please refer to Note 9(5) for more details on other financial liabilities-noncurrent.

- (9) Significant intercompany transactions among consolidated entities for the years ended December 31, 2020 and 2019 are disclosed in Attachment 1.

(10) Capital management

The primary objective of the Company's capital management is to ensure that it maintains a strong credit rating and healthy capital ratios to support its business and maximize the stockholders' value. The Company also ensures its ability to operate continuously to provide returns to stockholders and the interests of other related parties, while maintaining the optimal capital structure to reduce costs of capital.

To maintain or adjust the capital structure, the Company may adjust the dividend payment to stockholders, return capital to stockholders, issue new shares or dispose assets to redeem liabilities.

Similar to its peers, the Company monitors its capital based on debt to capital ratio. The ratio is calculated as the Company's net debt divided by its total capital. The net debt is derived by taking the total liabilities on the consolidated balance sheets minus cash and cash equivalents. The total capital consists of total equity (including capital, additional paid-in capital, retained earnings, other components of equity and non-controlling interests) plus net debt.

The Company's strategy, which is unchanged for the reporting periods, is to maintain a reasonable ratio in order to raise capital with reasonable cost. The debt to capital ratios as of December 31, 2020 and 2019 were as follows:

	As of December 31,	
	2020	2019
Total liabilities	\$141,743,273	\$162,972,943
Less: Cash and cash equivalents	(94,048,036)	(95,492,477)
Net debt	47,695,237	67,480,466
Total equity	235,773,102	207,214,422
Total capital	\$283,468,339	\$274,694,888
Debt to capital ratios	16.83%	24.57%

(3) Major customers

Individual customers accounting for at least 10% of operating revenues for the years ended December 31, 2020 and 2019 were as follows:

	For the years ended December 31,	
	2020	2019
Customer A from wafer fabrication segment	\$20,380,814	\$17,576,293

	As of December 31, 2020		
	Wafer Fabrication	New Business	Adjustment and Elimination (Note)
Segment assets	\$377,504,731	\$74,824	\$(63,180)
Segment liabilities	\$141,731,629	\$12,164	\$(520)
		Subtotal	Consolidated
		\$377,579,555	\$377,516,375
		\$141,743,793	\$141,743,273

	As of December 31, 2019		
	Wafer Fabrication	New Business	Adjustment and Elimination (Note)
Segment assets	\$369,189,983	\$924,149	\$73,233
Segment liabilities	\$161,955,970	\$1,157,878	\$(140,905)
		Subtotal	Consolidated
		\$370,114,132	\$370,187,365
		\$163,113,848	\$162,972,943

Note: The adjustment primarily consisted of elimination entries for wafer fabrication segment's investments in new business segment that was accounted for under the equity method.

(2) Geographic non-current assets information

	As of December 31,	
	2020	2019
Taiwan	\$64,563,752	\$73,481,714
Singapore	11,621,141	15,191,880
China (includes Hong Kong)	59,643,273	63,622,327
Japan	11,591,851	12,265,769
USA	46,484	70,498
Europe	21,257	24,383
Others	1,126	3,309
Total	\$147,488,884	\$164,659,880

Non-current assets include property, plant and equipment, right-of-use assets, intangible assets, prepayment for equipment and other noncurrent assets-others.

ATTACHMENT 1 (Significant intercompany transactions between consolidated entities)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

For the year ended December 31, 2020

No. (Note 1)	Related party	Counterparty	Relationship with the Company (Note 2)	Transactions			
				Account	Amount	Collection periods (Note 3)	Percentage of consolidated operating revenues or consolidated total assets (Note 4)
0	UNITED MICROELECTRONICS CORPORATION	UMC GROUP (USA)	1	Sales	\$49,357,981	Net 60 days	28%
0	UNITED MICROELECTRONICS CORPORATION	UMC GROUP (USA)	1	Accounts receivable	5,388,172	-	1%
0	UNITED MICROELECTRONICS CORPORATION	UMC GROUP JAPAN	1	Sales	1,220,419	Net 60 days	1%
0	UNITED MICROELECTRONICS CORPORATION	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	1	Sales	1,183,180	Net 30 days	1%
0	UNITED MICROELECTRONICS CORPORATION	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	1	Accounts receivable	(Note 5) 24,831	-	0%
1	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	UMC GROUP (USA)	3	Sales	970,358	Net 60 days	1%
1	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	UMC GROUP (USA)	3	Accounts receivable	250,092	-	0%
2	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UMC GROUP (USA)	3	Sales	137,860	Net 60 days	0%
2	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UMC GROUP (USA)	3	Accounts receivable	33,069	-	0%
2	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UMC GROUP JAPAN	3	Sales	106,077	Net 60 days	0%
3	UNITED SEMICONDUCTOR JAPAN CO., LTD.	UMC GROUP (USA)	3	Sales	1,395,094	Net 60 days	1%
3	UNITED SEMICONDUCTOR JAPAN CO., LTD.	UMC GROUP (USA)	3	Accounts receivable	456,860	-	0%

For the year ended December 31, 2019

No. (Note 1)	Related party	Counterparty	Relationship with the Company (Note 2)	Transactions			
				Account	Amount	Collection periods (Note 3)	Percentage of consolidated operating revenues or consolidated total assets (Note 4)
0	UNITED MICROELECTRONICS CORPORATION	UMC GROUP (USA)	1	Sales	\$47,736,335	Net 60 days	32%
0	UNITED MICROELECTRONICS CORPORATION	UMC GROUP (USA)	1	Accounts receivable	5,937,706	-	2%
0	UNITED MICROELECTRONICS CORPORATION	UMC GROUP JAPAN	1	Sales	3,933,964	Net 60 days	3%
0	UNITED MICROELECTRONICS CORPORATION	UMC GROUP JAPAN	1	Accounts receivable	608,622	-	0%
0	UNITED MICROELECTRONICS CORPORATION	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	1	Sales	1,209,310	Net 30 days	1%
0	UNITED MICROELECTRONICS CORPORATION	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	1	Accounts receivable	(Note 5) 31,334	-	0%
1	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	UMC GROUP (USA)	3	Sales	745,226	Net 60 days	1%
1	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	UMC GROUP (USA)	3	Accounts receivable	33,242	-	0%
2	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UMC GROUP (USA)	3	Sales	152,012	Net 60 days	0%
2	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UMC GROUP (USA)	3	Accounts receivable	21,138	-	0%
2	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UMC GROUP JAPAN	3	Sales	250,736	Net 60 days	0%
2	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UMC GROUP JAPAN	3	Accounts receivable	51,150	-	0%

Note 1: UMC and its subsidiaries are coded as follows:

1. UMC is coded "0".

2. The subsidiaries are coded consecutively beginning from "1" in the order presented in the table above.

Note 2: Transactions are categorized as follows:

1. The holding company to subsidiary.

2. Subsidiary to holding company.

3. Subsidiary to subsidiary.

Note 3: The sales price to the above related parties was determined through mutual agreement in reference to market conditions.

Note 4: The percentage with respect to the consolidated asset/liability for transactions of balance sheet items are based on each item's balance at period-end.

For profit or loss items, cumulative balances are used as basis.

Note 5: UMC authorized technology licenses to its subsidiary, UNITED SEMICONDUCTOR (XIAMEN) CO., LTD., in the amount of USD 0.35 billion which was recognized as deferred revenue.

Since it was a downstream transaction, the deferred revenue would be realized over time.

ATTACHMENT 2 (Financing provided to others for the year ended December 31, 2020)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

No. (Note 1)	Lender	Counter-party	Financial statement account	Related Party	Maximum balance for the period	Ending balance	Actual amount provided	Interest rate	Nature of financing	Amount of sales to (purchases from) counter-party	Reason for financing	Loss allowance	Collateral		Limit of financing amount for individual counter-party (Note2)	Limit of total financing amount (Note2)
													Item	Value		
0	UNITED MICROELECTRONICS CORPORATION	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Other receivables - related parties	Yes	\$12,793,300	\$10,519,100	\$-	0.90013% - 2.56%	The need for short-term financing	\$-	Business turnover	\$-	None	\$-	\$23,565,975	\$94,263,898

Note 1: The parent company and its subsidiaries are coded as follows:

- (i) The parent company is coded "0".
- (ii) The subsidiaries are coded consecutively beginning from "1" in the order presented in the table above.

Note 2: Limit of financing amount for individual counter-party shall not exceed 10% of the lender's net assets value as of the period.

Limit of total financing amount shall not exceed 40% of the Company's net asset value.

ATTACHMENT 3 (Endorsement/Guarantee provided to others for the year ended December 31, 2020)
(Amount in thousand; Currency denomination in RMB or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

No. (Note 1)	Endorser/Guarantor	Receiving party	Relationship (Note 2)	Limit of guarantee/endorsement amount for receiving party (Note 3)	Maximum balance for the period	Ending balance (Note 5)	Actual amount provided (Note 5)	Amount of collateral guarantee/endorsement	Percentage of accumulated guarantee amount to net assets value from the latest financial statement	Limit of total guarantee/endorsement amount (Note 4)
0	UNITED MICROELECTRONICS CORPORATION	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	2	\$106,046,886	\$19,122,525	\$19,122,525	\$10,350,164	\$-	8.11%	\$106,046,886

HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.

No. (Note 1)	Endorser/Guarantor	Receiving party	Relationship (Note 2)	Limit of guarantee/endorsement amount for receiving party (Note 6)	Maximum balance for the period	Ending balance	Actual amount provided	Amount of collateral guarantee/endorsement	Percentage of accumulated guarantee amount to net assets value from the latest financial statement	Limit of total guarantee/endorsement amount (Note 6)
1	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	6	\$10,017,788	\$8,361,765	\$6,896,607	\$4,564,118	\$-	30.98%	\$10,017,788

Note 1: The parent company and its subsidiaries are coded as follows:

- The parent company is coded "0".
- The subsidiaries are coded consecutively beginning from "1" in the order presented in the table above.

Note 2: According to the "Guidelines Governing the Preparation of Financial Reports by Securities Issuers" issued by the R.O.C. Securities and Futures Bureau, receiving parties should be disclosed as one of the following:

- A company with which it does business.
- A company in which the public company directly and indirectly holds more than 50% of the voting shares.
- A company that directly and indirectly holds more than 50% of the voting shares in the public company.
- A company in which the public company holds, directly or indirectly, 90% or more of the voting shares.
- A company that fulfills its contractual obligations by providing mutual endorsements/guarantees for another company in the same industry or for joint builders for purposes of undertaking a construction project.
- A company that all capital contributing shareholders make endorsements/guarantees for their jointly invested company in proportion to their shareholding percentages.
- Companies in the same industry provide themselves joint and several security for a performance guarantee of a sales contract for pre-construction homes pursuant to the Consumer Protection Act for each other.

Note 3: The amount of endorsements/guarantees shall not exceed 45% of the net worth of endorser/guarantor; and the ceilings on the amount of endorsements/guarantees for any single entity are as follows:

- The amount of endorsements/guarantees for any single entity shall not exceed 45% of net worth of endorser/guarantor.
- The amount of endorsements/guarantees for a company which endorser/guarantor does business with, except the ceiling rules abovementioned shall not exceed the needed amounts arising from business dealings which is the higher amount of total sales or purchase transactions between endorser/guarantor and the receiving party.

The aggregate amount of endorsements/guarantees that the Company as a whole is permitted to make shall not exceed 45% of the Company's net worth, and the aggregate amount of endorsements/guarantees for any single entity shall not exceed 45% of the Company's net worth.

Note 4: Limit of total guarantee/endorsement amount shall not exceed 45% of UMC's net assets value as of December 31, 2020.

Note 5: On February 22, 2017, the board of directors resolved to guarantee UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.'s syndicated loan from banks including China Development Bank in the amount up to USD 310 million.

On March 7, 2018, the board of directors resolved to increase the endorsement for syndicated loan amounted to USD 152 million, on October 24, 2018, the board of directors resolved to increase the endorsement for syndicated loan amounted to USD 41 million.

On July 24, 2019, the board of directors resolved to decrease the endorsement for syndicated loan amounted to USD 26 million, on December 18, 2019, the board of directors resolved to increase the endorsement for syndicated loan amounted to USD 13 million.

On October 29, 2020, the board of directors resolved to decrease the endorsement for syndicated loan amounted to USD 32 million and to increase the endorsement for short-term loans agreement amounted to CNY 900 million.

On December 16, 2020, the board of directors resolved to decrease the endorsement for syndicated loan amounted to USD 29 million,

to decrease the endorsement for short-term loans agreement amounted to CNY 900 million and to increase the endorsement for loans agreement amounted to CNY 1.97 billion.

Total endorsement amount is up to USD 371 million and CNY 1.97 billion. As of December 31, 2020, actual amount provided was NT\$10.35 billion.

Note 6: Limit of total endorsed/guaranteed amount shall not exceed 45% of HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.'s net assets value as of December 31, 2020.

The amount of endorsements/guarantees for any single entity shall not exceed 45% of net worth of HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.'s net assets value as of December 31, 2020.

The aggregate amount of endorsements/guarantees that the Company as a whole is permitted to make shall not exceed 45% of the Company's net worth, and the aggregate amount of

endorsements/guarantees for any single entity shall not exceed 45% of the Company's net worth.

ATTACHMENT 4 (Securities held as of December 31, 2020) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Fund	MILLERFUL NO.1 REAL ESTATE INVESTMENT TRUST	-	Financial assets at fair value through profit or loss, current	18,000	\$189,720	1.70	\$189,720
Stock	HUT 8 MINING CORP.	-	Financial assets at fair value through profit or loss, current	1,208	93,873	1.25	93,873
Stock	PIXART IMAGING, INC.	-	Financial assets at fair value through profit or loss, current	1,600	307,200	1.13	307,200
Stock	PHISON ELECTRONICS CORP.	-	Financial assets at fair value through profit or loss, current	586	194,845	0.30	194,845
Stock	KING YUAN ELECTRONICS CO., LTD.	-	Financial assets at fair value through profit or loss, current	2,675	92,956	0.22	92,956
Fund	RED ARC GLOBAL INVESTMENTS (IRELAND) ICAV TERM LIQUIDITY FUND	-	Financial assets at fair value through profit or loss, current	57	170,740	0.21	170,740
Stock	PIXTECH, INC.	-	Financial assets at fair value through profit or loss, noncurrent	9,883	-	17.63	-
Stock	UNITED FU SHEN CHEN TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	17,511	-	15.75	-
Stock	HOLTEK SEMICONDUCTOR INC.	-	Financial assets at fair value through profit or loss, noncurrent	22,144	1,607,673	9.79	1,607,673
Stock	OCTTASIA INVESTMENT HOLDING INC.	-	Financial assets at fair value through profit or loss, noncurrent	6,692	468,012	9.29	468,012
Stock	UNITED INDUSTRIAL GASES CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	16,680	1,445,629	7.66	1,445,629
Stock	AMIC TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	5,627	-	4.71	-
Stock	SUBTRON TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	12,521	185,307	4.29	185,307
Stock	KING YUAN ELECTRONICS CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	20,483	711,774	1.68	711,774
Stock	EPISTAR CORP.	-	Financial assets at fair value through profit or loss, noncurrent	10,715	443,601	0.98	443,601
Stock	TOPOINT TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,184	32,728	0.83	32,728
Stock	PROMOS TECHNOLOGIES INC.	-	Financial assets at fair value through profit or loss, noncurrent	324	-	0.72	-
Stock-Preferred stock	TONBU, INC.	-	Financial assets at fair value through profit or loss, noncurrent	938	-	-	-
Stock-Preferred stock	AETAS TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,166	-	-	-
Stock-Preferred stock	TA SHEE GOLF & COUNTRY CLUB	-	Financial assets at fair value through profit or loss, noncurrent	0	20,000	-	20,000
Stock	SILICON INTEGRATED SYSTEMS CORP.	The Company's director	Financial assets at fair value through other comprehensive income, noncurrent	119,979	2,039,645	19.02	2,039,645
Stock	UNIMICRON HOLDING LIMITED	Associate	Financial assets at fair value through other comprehensive income, noncurrent	20,000	722,122	12.67	722,122
Stock	ITE TECH, INC.	-	Financial assets at fair value through other comprehensive income, noncurrent	13,960	950,674	8.67	950,674
Stock	NOVATEK MICROELECTRONICS CORP.	-	Financial assets at fair value through other comprehensive income, noncurrent	16,445	6,068,053	2.70	6,068,053
Stock-Preferred stock	MTIC HOLDINGS PTE. LTD.	Associate	Financial assets at fair value through other comprehensive income, noncurrent	12,000	170,145	-	170,145

ATTACHMENT 4 (Securities held as of December 31, 2020) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

FORTUNE VENTURE CAPITAL CORP.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Stock	DARCHUN VENTURE CORP.	-	Financial assets at fair value through profit or loss, noncurrent	1,514	\$2,090	19.65	\$2,090
Stock	SOLARGATE TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	957	-	15.94	-
Fund	TRENDFORCE CAPITAL FUND SPC-TRENDFORCE CAPITAL FUND I SP	-	Financial assets at fair value through profit or loss, noncurrent	15	55,571	15.06	55,571
Stock	TRONC-E CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,800	-	14.49	-
Stock	CLIENTRON CORP.	-	Financial assets at fair value through profit or loss, noncurrent	8,428	145,803	13.25	145,803
Stock	CENTERA PHOTONICS INC.	-	Financial assets at fair value through profit or loss, noncurrent	3,750	29,325	11.69	29,325
Stock	EVERGLORY RESOURCE TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,500	19,625	10.23	19,625
Stock	ADVANCE MATERIALS CORP.	-	Financial assets at fair value through profit or loss, noncurrent	10,719	54,237	9.12	54,237
Stock	MONTIAD ENGINEERING CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,800	13,644	8.18	13,644
Stock	EXCELSIUS MEDICAL CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,500	42,000	7.50	42,000
Stock	TAIWAN REDEYE BIOMEDIAL INC.	-	Financial assets at fair value through profit or loss, noncurrent	445	20,025	7.43	20,025
Stock	NEW SMART TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	900	9,180	7.29	9,180
Stock	WIN WIN PRECISION TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3,150	68,355	6.93	68,355
Stock	RISELINK VENTURE CAPITAL CORP.	-	Financial assets at fair value through profit or loss, noncurrent	11	1,616	6.67	1,616
Stock	LICO TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	6,609	-	5.32	-
Stock	AMPAK TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	3,000	203,400	4.98	203,400
Stock	ACT GENOMICS HOLDINGS CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	4,600	152,487	4.74	152,487
Stock	EMPASS TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	300	6,621	4.53	6,621
Stock	MERIDJEN BIOTECH CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3,838	-	4.20	-
Stock	TAIWAN AULISA MEDICAL DEVICES TECHNOLOGIES, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,114	50,139	4.12	50,139
Stock	EXCELLENCE OPTOELECTRONICS INC.	-	Financial assets at fair value through profit or loss, noncurrent	6,374	207,470	3.72	207,470
Stock	SOLID STATE SYSTEM CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,400	112,080	3.71	112,080
Stock	SUBTRON TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	10,059	148,870	3.45	148,870
Stock	ANIMATION TECHNOLOGIES INC.	-	Financial assets at fair value through profit or loss, noncurrent	265	-	3.16	-
Stock	TOPOINT TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	4,416	122,107	3.11	122,107
Fund	TRANSLINK CAPITAL PARTNERS IV, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	106,583	2.96	106,583
Stock	BRIGHT SHELAND INTERNATIONAL CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,200	38,400	2.87	38,400

ATTACHMENT 4 (Securities held as of December 31, 2020) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

FORTUNE VENTURE CAPITAL CORP.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Stock	TAIWAN SEMICONDUCTOR CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	6,741	\$373,856	2.70	\$373,856
Stock	CHITEC TECHNOLOGY CORP., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	627	15,518	2.15	15,518
Fund	VERTEX V (C.I.) FUND LP.	-	Financial assets at fair value through profit or loss, noncurrent	-	73,008	2.07	73,008
Stock	FORMOSA PHARMACEUTICALS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,500	26,190	2.06	26,190
Stock	M3 TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	694	77,034	1.89	77,034
Stock	YUEN FOONG YU CONSUMER PRODUCTS CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	4,000	185,000	1.63	185,000
Stock	ACER E-ENABLING SERVICE BUSINESS INC.	-	Financial assets at fair value through profit or loss, noncurrent	550	23,650	1.51	23,650
Stock	LINTES TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	615	78,412	1.08	78,412
Stock	WALTOP INTERNATIONAL CORP.	-	Financial assets at fair value through profit or loss, noncurrent	131	416	1.07	416
Stock	CRYSTAL WISE TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	888	30,063	1.02	30,063
Stock	POWERTEC ELECTROCHEMICAL CORP. (formerly POWERTEC ENERGY CORP.)	-	Financial assets at fair value through profit or loss, noncurrent	9,930	-	0.70	-
Stock	TAIWANJI PHARMACEUTICALS CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	514	6,862	0.68	6,862
Stock	NORATECH PHARMACEUTICALS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,000	7,480	0.63	7,480
Stock	TIGERAIR TAIWAN CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,300	39,715	0.46	39,715
Stock	SOLAR APPLIED MATERIALS TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	200	8,700	0.04	8,700
Stock	FORTEMEDIA, INC.	-	Financial assets at fair value through profit or loss, noncurrent	21	58	0.02	58
Stock-Preferred Stock	EJOULE INTERNATIONAL LIMITED	-	Financial assets at fair value through profit or loss, noncurrent	23,909	149,433	-	149,433
Stock-Preferred Stock	FLOADIA CORP.	-	Financial assets at fair value through profit or loss, noncurrent	2	114,811	-	114,811
Stock-Preferred Stock	CEREBREX, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1	-	-	-
Stock-Preferred Stock	FORTEMEDIA, INC.	-	Financial assets at fair value through profit or loss, noncurrent	311	3,476	-	3,476
Stock-Preferred Stock	ACEPODIA, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,449	27,594	-	27,594
Stock-Preferred Stock	BRAVOTEK CORP.	-	Financial assets at fair value through profit or loss, noncurrent	2,250	56,291	-	56,291
Stock-Preferred Stock	GEAR RADIO LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,400	49,326	-	49,326
Convertible bonds	YEONG GUAN ENERGY TECHNOLOGY GROUP CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	100	10,750	-	10,750
Convertible bonds	IBASE TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	60	6,357	-	6,357
Convertible bonds	TEAM GROUP INC.	-	Financial assets at fair value through profit or loss, noncurrent	379	47,451	-	47,451
Convertible bonds	PCHOME ONLINE INC.	-	Financial assets at fair value through profit or loss, noncurrent	455	49,822	-	49,822
Convertible bonds	CHANG WAH ELECTROMATERIALS INC.	-	Financial assets at fair value through profit or loss, noncurrent	250	32,125	-	32,125

ATTACHMENT 4 (Securities held as of December 31, 2020) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

FORTUNE VENTURE CAPITAL CORP.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Convertible bonds	BRIGHT SHELAND INTERNATIONAL CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	250	\$24,308	-	\$24,308
Stock	SHIN-ETSU HANDOTAI TAIWAN CO., LTD.	-	Financial assets at fair value through other comprehensive income, noncurrent	10,500	575,505	7.00	575,505
Stock	UNITED MICROELECTRONICS CORP.	Parent company	Financial assets at fair value through other comprehensive income, noncurrent	16,079	758,112	0.13	758,112

TLC CAPITAL CO., LTD.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Convertible bonds	EIOULE INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, current	-	\$149,997	-	\$149,997
Fund	EVERY CAPITAL ASIA FUND, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	181,859	18.18	181,859
Fund	EVERY CAPITAL ASIA FUND II, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	80,320	16.13	80,320
Stock	BEAUTY ESSENTIALS INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	150,500	59,902	13.99	59,902
Fund	OAK HILL OPPORTUNITIES FUND, SEGREGATED PORTFOLIO	-	Financial assets at fair value through profit or loss, noncurrent	13	326,200	13.00	326,200
Stock	WINKING ENTERTAINMENT LTD.	-	Financial assets at fair value through profit or loss, noncurrent	6,433	56,692	10.99	56,692
Stock	EVERGLORY RESOURCE/TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,200	9,420	4.91	9,420
Stock	ADVANCE MATERIALS CORP.	-	Financial assets at fair value through profit or loss, noncurrent	5,435	27,500	4.62	27,500
Fund	TRANSLINK CAPITAL PARTNERS III, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	164,944	4.24	164,944
Stock	WELLYSUN INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,000	10,210	3.27	10,210
Stock	SUNDIA MEDITECH GROUP	-	Financial assets at fair value through profit or loss, noncurrent	117	-	3.20	-
Fund	H&QAP GREATER CHINA GROWTH FUND, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	93	2.67	93
Stock	EXCELLENCE OPTOELECTRONICS INC.	-	Financial assets at fair value through profit or loss, noncurrent	3,183	103,610	1.86	103,610
Stock	HANDA PHARMACEUTICALS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,000	24,400	0.86	24,400
Stock	SIMPLO TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,422	497,869	0.77	497,869
Stock	TXC CORP.	-	Financial assets at fair value through profit or loss, noncurrent	1,978	148,152	0.64	148,152
Stock	LINTES TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	365	46,537	0.64	46,537
Stock	POWTEC ELECTROCHEMICAL CORP (formerly POWERTEC ENERGY CORP)	-	Financial assets at fair value through profit or loss, noncurrent	6,470	-	0.46	-
Stock	YUEN FOONG YU CONSUMER PRODUCTS CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,000	46,250	0.41	46,250
Stock	EVERGREEN STEEL CORP.	-	Financial assets at fair value through profit or loss, noncurrent	1,000	46,250	0.25	46,250

ATTACHMENT 4 (Securities held as of December 31, 2020) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

TLC CAPITAL CO., LTD.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Stock	VALUE VALVES CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	40	\$4,100	0.10	\$4,100
Stock	ADVANCED ENERGY SOLUTION HOLDING CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	49	4,069	0.08	4,069
Convertible bonds	TECHCENTRAL INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	99	9,613	-	9,613
Convertible bonds	CHANG WAH ELECTROMATERIALS INC.	-	Financial assets at fair value through profit or loss, noncurrent	120	15,420	-	15,420
Capital-Preferred stock	GUANGXI CHIPBETTER MICROELECTRONICS INC.	-	Financial assets at fair value through profit or loss, noncurrent	672	59,101	-	59,101
Stock-Preferred stock	YOUJIA GROUP LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,685	2,636	-	2,636
Stock-Preferred stock	ALO7 LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,377	286,997	-	286,997
Stock-Preferred stock	ADWO MEDIA HOLDINGS LTD.	-	Financial assets at fair value through profit or loss, noncurrent	5,332	-	-	-
Stock-Preferred stock	IMO, INC.	-	Financial assets at fair value through profit or loss, noncurrent	8,519	-	-	-
Stock-Preferred stock	HIGHLANDER FINANCIAL GROUP CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	26,499	-	-	-
Stock-Preferred stock	GAME VIDEO LTD.	-	Financial assets at fair value through profit or loss, noncurrent	279	106,617	-	106,617
Stock-Preferred stock	PLAYNITRIDE INC.	-	Financial assets at fair value through profit or loss, noncurrent	717	85,892	-	85,892
Stock-Preferred stock	EJOULE INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	35,863	224,149	-	224,149
Stock-Preferred stock	TURNING POINT LASERS LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,000	64,589	-	64,589
Stock-Preferred stock	ARTERY TECHNOLOGY CORP.	Associate	Financial assets at fair value through profit or loss, noncurrent	770	99,966	-	99,966
Stock-Preferred stock	ISAB HOLDING LTD.	-	Financial assets at fair value through profit or loss, noncurrent	667	28,430	-	28,430

UMC CAPITAL CORP.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Convertible bonds	CLOUDWORDS, INC.	-	Financial assets at fair value through profit or loss, current	-	USD 190	-	USD 190
Convertible bonds	CNEX LABS, INC.	-	Financial assets at fair value through profit or loss, current	-	USD 335	-	USD 335
Capital	TRANSLINK MANAGEMENT III, L.L.C.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 739	14.33	USD 739
Fund	TRANSLINK CAPITAL PARTNERS III, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 15,686	11.47	USD 15,686
Stock	OCTASIA INVESTMENT HOLDING INC.	-	Financial assets at fair value through profit or loss, noncurrent	7,035	USD 17,306	9.76	USD 17,306
Fund	TRANSLINK CAPITAL PARTNERS IV, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 11,247	8.87	USD 11,247
Stock	ALL-STARS SP IV LTD.	-	Financial assets at fair value through profit or loss, noncurrent	7	USD 6,986	5.03	USD 6,986

ATTACHMENT 4 (Securities held as of December 31, 2020) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UMC CAPITAL CORP.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020		Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Percentage of ownership (%)	
Fund	TRANS LINK CAPITAL PARTNERS II, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	Carrying amount - USD	1,664	1,664
Fund	GROVE VENTURES II, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	- USD	519	519
Fund	SIERRA VENTURES XI, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	- USD	3,924	3,924
Fund	STORM VENTURES FUND V, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	- USD	3,940	3,940
Fund	SIERRA VENTURES XII, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	- USD	562	562
Stock	ACHIEVE MADE INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	80 USD	77	77
Stock-Preferred stock	ACHIEVE MADE INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,644 USD	9,053	9,053
Stock-Preferred stock	CNEX LABS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	3,920 USD	5,949	5,949
Stock-Preferred stock	GLYMPSE, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,349 USD	3,538	3,538
Stock-Preferred stock	ATSCALE, INC.	-	Financial assets at fair value through profit or loss, noncurrent	8,520 USD	7,243	7,243
Stock-Preferred stock	SENSIFREE LTD.	-	Financial assets at fair value through profit or loss, noncurrent	614 USD	978	978
Stock-Preferred stock	APIER HOLDINGS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	64 USD	3,329	3,329
Stock-Preferred stock	DCARD HOLDINGS LTD.	-	Financial assets at fair value through profit or loss, noncurrent	30,075 USD	6,131	6,131
Stock-Preferred stock	NEXTINPUT, INC.	-	Financial assets at fair value through profit or loss, noncurrent	3,866 USD	1,400	1,400
Stock-Preferred stock	GCT SEMICONDUCTOR, INC.	-	Financial assets at fair value through profit or loss, noncurrent	175 USD	166	166
Stock-Preferred stock	FORTEMEDIA, INC.	-	Financial assets at fair value through profit or loss, noncurrent	12,241 USD	8,623	8,623
Stock-Preferred stock	SIFOTONICS TECHNOLOGIES CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3,500 USD	9,222	9,222
Stock-Preferred stock	NEVO ENERGY, INC.	-	Financial assets at fair value through profit or loss, noncurrent	4,980	-	-
Stock-Preferred stock	NEXENTA SYSTEMS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	6,555	-	-
Stock-Preferred stock	CLOUDWORDS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	9,461 USD	5,006	5,006
Stock-Preferred stock	EAST VISION TECHNOLOGY LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,770	-	-
Stock-Preferred stock	RENIAC, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,287 USD	2,266	2,266
Stock-Preferred stock	BLUESPACE.AI, INC.	-	Financial assets at fair value through profit or loss, noncurrent	174 USD	200	200
Stock-Preferred stock	REED SEMICONDUCTOR CORP.	-	Financial assets at fair value through profit or loss, noncurrent	3,352 USD	1,006	1,006

ATTACHMENT 4 (Securities held as of December 31, 2020) (Excluding subsidiaries, associates and joint ventures)
 (Amount in thousand; Currency denomination in NTD or in foreign currencies)

UMC CAPITAL CORP.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Stock-Preferred stock	A.A.A TARANIS VISUAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	4	USD 3,414	-	3,414
Convertible bonds	GLYMPSE, INC.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 1,808	-	1,808

TERA ENERGY DEVELOPMENT CO., LTD.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Stock	TIAN TAI PHOTOELECTRICITY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	375	USD \$5,407	1.18	\$5,407

SINO PARAGON LIMITED

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Fund	SPARKLABS GLOBAL VENTURES FUND I, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD \$100,364	11.13	\$100,364
Fund	SPARKLABS KOREA FUND II, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 39,320	5.00	39,320

UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Fund	LANHOR FUND	-	Financial assets at fair value through profit or loss, noncurrent	-	RMB 29,949	9.71	RMB 29,949

ATTACHMENT 5 (Individual securities acquired or disposed of with accumulated amount exceeding the lower of NT\$300 million or 20 percent of the capital stock for the year ended December 31, 2020)
 (Amount in thousand, Currency denomination in NTD or in foreign currencies)

Type of securities	Name of the securities	Financial statement account	Counter-party	Relationship	Beginning balance		Addition		Disposal		Ending balance	
					Units (thousand)/ bonds/shares (thousand)	Amount	Units (thousand)/ bonds/shares (thousand)	Amount	Units (thousand)/ bonds/shares (thousand)	Amount	Units (thousand)/ bonds/shares (thousand)	Amount

None

260 ATTACHMENT 6 (Acquisition of individual real estate with amount exceeding the lower of NT\$300 million or 20 percent of the capital stock for the year ended December 31, 2020)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

Where counter-party is a related party, details of prior transactions												
Name of properties	Transaction date	Transaction amount	Payment status	Counter-party	Relationship	Former holder of property	Relationship between former holder and acquirer of property	Date of transaction	Transaction amount	Price reference	Date of acquisition and status of utilization	Other commitments

None

ATTACHMENT 7 (Disposal of individual real estate with amount exceeding the lower of NT\$300 million or 20 percent of the capital stock for the year ended December 31, 2020)
 (Amount in thousand; Currency denomination in NTD or in foreign currencies)

NEXPOWER TECHNOLOGY CORP.

Names of properties	Transaction date	Date of original acquisition	Carrying amount	Transaction amount	Status of proceeds collection	Gain (Loss) from disposal	Counter-party	Relationship	Reason of disposal	Price reference	Other commitments
Construction plant and its facility equipment	June 16, 2020	February 1, 2008-June 1, 2017	\$601,042	\$1,766,666	Received	\$1,081,497	GENERAL INTERFACE SOLUTION LIMITED	None	In order to improve the company's operations and reduce the fixed costs.	The valuation report	None

ATTACHMENT 8 (Related party transactions for purchases and sales amounts exceeding the lower of NT\$100 million or 20 percent of capital stock for the year ended December 31, 2020)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

Counter-party	Relationship	Transactions			Details of non-arm's length transaction			Notes and accounts receivable (payable)		Note
		Purchases (Sales)	Amount	Percentage of total purchases (sales)	Term	Unit price	Term	Balance	Percentage of total receivables (payable)	
UMC GROUP (USA)	Subsidiary	Sales	\$49,357,981	36 %	Net 60 days	N/A	N/A	\$5,388,172	27 %	
FARADAY TECHNOLOGY CORPORATION	Associate	Sales	1,225,941	1 %	Month-end 60 days	N/A	N/A	116,415	1 %	
UMC GROUP JAPAN	Subsidiary	Sales	1,220,419	1 %	Net 60 days	N/A	N/A	-	0 %	
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Subsidiary	Sales	1,183,180	1 %	Net 30 days	N/A	N/A	24,831	0 %	

UMC GROUP (USA)

Counter-party	Relationship	Transactions			Details of non-arm's length transaction			Notes and accounts receivable (payable)		Note
		Purchases (Sales)	Amount	Percentage of total purchases (sales)	Term	Unit price	Term	Balance	Percentage of total receivables (payable)	
UNITED MICROELECTRONICS CORPORATION	Parent company	Purchases	1,616,198	95 %	Net 60 days	N/A	N/A	190,038	88 %	
UNITED SEMICONDUCTOR JAPAN CO., LTD.	Associate	Purchases	43,335	3 %	Net 60 days	N/A	N/A	16,072	7 %	
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Associate	Purchases	33,546	2 %	Net 60 days	N/A	N/A	8,815	4 %	
HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	Associate	Purchases	4,660	0 %	Net 60 days	N/A	N/A	1,164	1 %	

UMC GROUP JAPAN

Counter-party	Relationship	Transactions			Details of non-arm's length transaction			Notes and accounts receivable (payable)		Note
		Purchases (Sales)	Amount	Percentage of total purchases (sales)	Term	Unit price	Term	Balance	Percentage of total receivables (payable)	
UNITED MICROELECTRONICS CORPORATION	Parent company	Purchases	3,987,383	91 %	Net 60 days	N/A	N/A	-	-	
HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	Associate	Purchases	370,700	9 %	Net 60 days	N/A	N/A	-	-	

HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.

Counter-party	Relationship	Transactions			Details of non-arm's length transaction			Notes and accounts receivable (payable)		Note
		Purchases (Sales)	Amount	Percentage of total purchases (sales)	Term	Unit price	Term	Balance	Percentage of total receivables (payable)	
FARADAY TECHNOLOGY CORPORATION	Associate	Sales	139,051	5 %	Net 45 days	N/A	N/A	109	0 %	
UMC GROUP (USA)	Associate	Sales	32,165	1 %	Net 60 days	N/A	N/A	7,593	2 %	
UMC GROUP JAPAN	Associate	Sales	24,750	1 %	Net 60 days	N/A	N/A	-	-	

UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.

Counter-party	Relationship	Transactions			Details of non-arm's length transaction			Notes and accounts receivable (payable)		Note
		Purchases (Sales)	Amount	Percentage of total purchases (sales)	Term	Unit price	Term	Balance	Percentage of total receivables (payable)	
UMC GROUP (USA)	Associate	Sales	226,402	7 %	Net 60 days	N/A	N/A	57,427	12 %	
FARADAY TECHNOLOGY CORPORATION	Associate	Sales	35,053	1 %	Net 60 days	N/A	N/A	5,335	1 %	

UNITED SEMICONDUCTOR JAPAN CO., LTD.

Counter-party	Relationship	Transactions			Details of non-arm's length transaction			Notes and accounts receivable (payable)		Note
		Purchases (Sales)	Amount	Percentage of total purchases (sales)	Term	Unit price	Term	Balance	Percentage of total receivables (payable)	
UMC GROUP (USA)	Associate	Sales	5,054,690	9 %	Net 60 days	N/A	N/A	1,663,728	16 %	

ATTACHMENT 9 (Receivables from related parties with amounts exceeding the lower of NT\$100 million or 20 percent of capital stock as of December 31, 2020)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

Counter-party	Relationship	Ending balance			Turnover rate (times)	Overdue receivables				
		Notes receivable	Accounts receivable	Other receivables		Total	Amount	Collection status	Amount received in subsequent period	
UMC GROUP (USA)	Subsidiary	\$-	\$5,388,172	\$-	8.72	\$-	-	\$5,402,791	Loss allowance	\$14,619
FARADAY TECHNOLOGY CORP.	Associate	-	116,415	-	12.15	89	Collection in subsequent period	112,226		173

UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.

Counter-party	Relationship	Ending balance			Turnover rate (times)	Overdue receivables				
		Notes receivable	Accounts receivable	Other receivables		Total	Amount	Collection status	Amount received in subsequent period	
UMC GROUP (USA)	Associate	\$-	RMB 57,427	\$-	6.95	\$-	-	RMB 25,611	Loss allowance	RMB 92

UNITED SEMICONDUCTOR JAPAN CO., LTD.

Counter-party	Relationship	Ending balance			Turnover rate (times)	Overdue receivables				
		Notes receivable	Accounts receivable	Other receivables		Total	Amount	Collection status	Amount received in subsequent period	
UMC GROUP (USA)	Associate	\$-	JPY 1,663,728	\$-	6.13	\$-	-	JPY 1,663,728	Loss allowance	\$-

ATTACHMENT 10 (Names, locations and related information of investee companies as of December 31, 2020) (Not including investment in Mainland China)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

Investee company	Address	Main businesses and products	Initial Investment			Investment as of December 31, 2020					Investment income (loss) recognized	Note
			Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized			
UMC GROUP (USA)	USA	IC Sales	USD 16,438	USD 16,438	16,438	100.00	\$1,722,181	\$66,833	\$66,833			
UNITED MICROELECTRONICS (EUROPE) B.V.	The Netherlands	Marketing support activities	USD 5,421	USD 5,421	9	100.00	135,624	461	461			
UMC CAPITAL CORP.	Cayman Islands	Investment holding	USD 81,500	USD 81,500	71,663	100.00	4,087,620	552,087	553,778			
GREEN EARTH LIMITED	Samoa	Investment holding	USD 977,000	USD 977,000	977,000	100.00	10,166,702	(3,062,542)	(3,062,542)			
TLC CAPITAL CO., LTD.	Taipei City, Taiwan	Venture capital	USD 4,610,000	USD 4,610,000	400,167	100.00	4,566,933	294,622	294,622			
UMC INVESTMENT (SAMOA) LIMITED	Samoa	Investment holding	USD 1,520	USD 1,520	1,520	100.00	39,961	(2,061)	(2,061)			
FORTUNE VENTURE CAPITAL CORP.	Taipei City, Taiwan	Consulting and planning for venture capital	USD 3,440,053	USD 3,440,053	401,734	100.00	5,400,821	741,604	728,678			
UMC KOREA CO., LTD.	Korea	Marketing support activities	KRW 550,000	KRW 550,000	110	100.00	21,834	1,124	1,124			
OMNI GLOBAL LIMITED	Samoa	Investment holding	USD 4,300	USD 4,300	4,300	100.00	585,317	26,487	26,487			
SINO PARAGON LIMITED	Samoa	Investment holding	USD 2,600	USD 2,600	2,600	100.00	142,353	20,513	20,513			
BEST ELITE INTERNATIONAL LIMITED	British Virgin Islands	Investment holding	USD 309,102	USD 309,102	664,966	100.00	22,926,322	2,005,823	2,005,823			
UNITED SEMICONDUCTOR JAPAN CO., LTD.	Japan	Sales and manufacturing of integrated circuits	JPY 64,421,068	JPY 64,421,068	116,247	100.00	17,668,765	154,542	154,542			
WAVETEK MICROELECTRONICS CORPORATION	Hsinchu County, Taiwan	Sales and manufacturing of integrated circuits	USD 1,903,741	USD 1,894,660	148,112	80.75	374,434	68,545	56,019			
MTIC HOLDINGS PTE. LTD.	Singapore	Investment holding	SGD 12,000	SGD 12,000	12,000	45.44	26,966	20,546	4,505			
UNITECH CAPITAL INC.	British Virgin Islands	Investment holding	USD 21,000	USD 21,000	21,000	42.00	823,185	531,925	223,409			
TRIKNIGHT CAPITAL CORPORATION	Taipei City, Taiwan	Investment holding	USD 2,342,800	USD 2,370,000	234,280	40.00	2,488,169	584,345	233,738			
HSUN CHIEH INVESTMENT CO., LTD.	Taipei City, Taiwan	Investment holding	USD 336,241	USD 336,241	364,102	36.49	10,165,563	15,866,872	5,790,187			
YANN YUAN INVESTMENT CO., LTD.	Taipei City, Taiwan	Investment holding	USD 2,300,000	USD 2,300,000	46,000	30.87	6,551,136	453,444	139,989			
FARADAY TECHNOLOGY CORPORATION	Hsinchu City, Taiwan	Design of application-specific integrated circuit	USD 38,918	USD 38,918	34,240	13.78	1,589,448	41,674	5,741			
UNIMICRON TECHNOLOGY CORP.	Taoyuan City, Taiwan	Manufacturing of PCB	USD 2,438,565	USD 2,438,565	196,136	13.36	9,107,377	1,914,492	256,055			
UMC GROUP JAPAN	Japan	IC Sales	-	JPY 60,000	-	-	-	13,400	13,400		Note 1	
NEXPOWER TECHNOLOGY CORP.	Taichung City, Taiwan	Sales and manufacturing of solar power batteries	-	USD 5,956,791	-	-	-	1,071,376	511,596		Note 2	

Note 1: As of November 11, 2020, UMC GROUP JAPAN was merged with UNITED SEMICONDUCTOR JAPAN CO., LTD. (USJC) and USJC is the surviving company.

Note 2: NEXPOWER TECHNOLOGY CORP. was dissolved and liquidated on November 11, 2020.

ATTACHMENT 10 (Names, locations and related information of investee companies as of December 31, 2020) (Not including investment in Mainland China)
(Amount in thousand; Currency denomination in NTD or in foreign currencies).

FORTUNE VENTURE CAPITAL CORP.

Investee company	Address	Main businesses and products	Investment as of December 31, 2020				Investment income (loss) recognized	Note		
			Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)			Carrying amount	Net income (loss) of investee company
TERA ENERGY DEVELOPMENT CO., LTD.	Hsinchu City, Taiwan	Energy, Technical Services	\$100,752	\$100,752	18,655	100.00	\$62,660	\$(10,586)		
PURIUMFIL INC.	Hsinchu City, Taiwan	Chemicals and filtration products & Microcontamination control service	10,000	10,000	1,000	44.45	6,206	(2,157)	(959)	
UNITED LED CORPORATION HONG KONG LIMITED	Hongkong	Investment holding	USD	USD	22,500	25.14	96,026	(109,104)	(27,428)	
WAVETEK MICROELECTRONICS CORPORATION	Hsinchu County, Taiwan	Sales and manufacturing of integrated circuits	8,856	8,856	1,194	0.65	3,954	68,545	450	
CLIENTRON CORP.	Xinbei City, Taiwan	Thin client	-	277,508	-	-	-	74,637	13,392	Note 1
NEXPOWER TECHNOLOGY CORP.	Taichung City, Taiwan	Sales and manufacturing of solar power batteries	-	1,688,630	-	-	-	1,071,376	358,535	Note 2
WINAICO IMMOBILIEN GMBH	Germany	Solar project	-	EUR 5,900	-	-	-	-	-	Note 3

Note 1: As FORTUNE VENTURE CAPITAL CORP. lost its significant influence in April 2020, the investee was reclassified from investments accounted for under the equity method to financial assets at fair value through profit or loss, noncurrent.

Note 2: NEXPOWER TECHNOLOGY CORP. was dissolved and liquidated on November 11, 2020.

Note 3: WINAICO IMMOBILIEN GMBH was disposed in December 2020.

TLC CAPITAL CO., LTD.

Investee company	Address	Main businesses and products	Investment as of December 31, 2020				Investment income (loss) recognized	Note		
			Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)			Carrying amount	Net income (loss) of investee company
SOARING CAPITAL CORP.	Samoa	Investment holding	USD	USD	900	100.00	\$8,174	\$(2,222)		
HSUN CHIEH CAPITAL CORP.	Samoa	Investment holding	USD	USD	8,000	40.00	195,675	56,935	22,976	
VSENSE CO., LTD.	Taipei City, Taiwan	Medical devices, measuring equipment, reagents and consumables	95,916	95,916	4,251	23.98	941	(31,763)	(5,884)	
NEXPOWER TECHNOLOGY CORP.	Taichung City, Taiwan	Sales and manufacturing of solar power batteries	-	888,019	-	-	-	1,071,376	130,091	Note

Note: NEXPOWER TECHNOLOGY CORP. was dissolved and liquidated on November 11, 2020.

UMC CAPITAL CORP.

Investee company	Address	Main businesses and products	Investment as of December 31, 2020				Investment income (loss) recognized	Note		
			Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)			Carrying amount	Net income (loss) of investee company
TRANSLINK CAPITAL PARTNERS I, L.P.	Cayman Islands	Investment holding	USD	USD	4,036	10.38	USD 6,155	USD 4,979	USD 414	
UMC CAPITAL (USA)	USA	Investment holding	-	USD 200	-	-	-	USD (0)	USD (0)	Note

Note: In August, 2020, UMC CAPITAL (USA) was dissolved.

TERA ENERGY DEVELOPMENT CO., LTD.

Investee company	Address	Main businesses and products	Investment as of December 31, 2020				Investment income (loss) recognized	Note		
			Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)			Carrying amount	Net income (loss) of investee company
EVERRICH ENERGY INVESTMENT (HK) LIMITED	Hongkong	Investment holding	USD	USD	750	100.00	\$41,326	\$2,281	\$2,281	
WINAICO IMMOBILIEN GMBH	Germany	Solar project	-	EUR 2,160	-	-	-	-	-	Note

Note: WINAICO IMMOBILIEN GMBH was disposed in December 2020.

ATTACHMENT 10 (Names, locations and related information of investee companies as of December 31, 2020) (Not including investment in Mainland China)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

WAYTEK MICROELECTRONICS CORPORATION

Investee company	Address	Main businesses and products			Investment as of December 31, 2020			Investment income (loss) recognized	Note
		Investment holding	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount		
WAYTEK MICROELECTRONICS INVESTMENT (SAMOA) LIMITED	Samoa	Investment holding	USD 1,650	USD 1,500	1,650	100.00	\$3,026	\$(3,503)	

WAYTEK MICROELECTRONICS INVESTMENT (SAMOA) LIMITED

Investee company	Address	Main businesses and products			Investment as of December 31, 2020			Investment income (loss) recognized	Note
		Marketing service	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount		
WAYTEK MICROELECTRONICS CORPORATION (USA)	USA	Marketing service	USD 60	USD 60	60	100.00	\$2,778	\$155	

BESTELITE INTERNATIONAL LIMITED

Investee company	Address	Main businesses and products			Investment as of December 31, 2020			Investment income (loss) recognized	Note
		Investment holding	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount		
INFOSHINE TECHNOLOGY LIMITED	British Virgin Islands	Investment holding	USD 354,000	USD 354,000	-	100.00	\$22,976,677	\$2,014,798	

INFOSHINE TECHNOLOGY LIMITED

Investee company	Address	Main businesses and products			Investment as of December 31, 2020			Investment income (loss) recognized	Note
		Investment holding	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount		
OAKWOOD ASSOCIATES LIMITED	British Virgin Islands	Investment holding	USD 354,000	USD 354,000	-	100.00	\$22,976,677	\$2,014,798	

OMNI GLOBAL LIMITED

Investee company	Address	Main businesses and products			Investment as of December 31, 2020			Investment income (loss) recognized	Note
		Research & Development	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount		
UNITED MICROT TECHNOLOGY CORPORATION (CALIFORNIA)	USA	Research & Development	USD 1,000	USD 1,000	0	100.00	\$34,655	\$1,422	
ECP VITA PTE. LTD.	Singapore	Insurance	USD 9,000	USD 9,000	9,000	100.00	541,146	34,369	
UMC TECHNOLOGY JAPAN CO., LTD.	Japan	Semiconductor manufacturing technology development and consulting services	JPY 35,000	JPY 35,000	4	100.00	8,678	(215)	
UNITED MICROT TECHNOLOGY CORPORATION (NEW YORK)	USA	Research & Development	USD -	USD 950	-	-	-	18	

Note: In November, 2020, UNITED MICROT TECHNOLOGY CORPORATION (NEW YORK) was dissolved.

GREEN EARTH LIMITED

Investee company	Address	Main businesses and products			Investment as of December 31, 2020			Investment income (loss) recognized	Note
		Investment holding	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount		
UNITED MICROCHIP CORPORATION	Cayman	Investment holding	USD 974,050	USD 974,050	974,050	100.00	\$10,141,318	\$(3,061,316)	

ATTACHMENT 11 (Investment in Mainland China as of December 31, 2020)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

Investee company	Main businesses and products	Total amount of paid-in capital	Method of investment	Investment flows				Investment income (loss) recognized (Note 2)	Carrying amount as of December 31, 2020	Accumulated inward remittance of earnings as of December 31, 2020	
				Investment Holding and advisory	Inflow	Outflow	Net income (loss) of investee company				Percentage of ownership
UNITRUTH ADVISOR (SHANGHAI) CO., LTD.	Investment Holding and advisory	(USD) \$22,744 (800)	(i) SOARING CAPITAL CORP.	\$-	\$-	\$22,744 (800)	100.00%	2,332	\$8,004	\$-	
EVERRICH (SHANDONG) ENERGY CO., LTD.	Solar engineering integrated design services	(USD) 21,323 (750)	(ii) EVERRICH ENERGY INVESTMENT (HK) LIMITED	-	-	21,323 (750)	100.00%	2,332	40,887	(USD) 124,865 (4,392)	
UNITED LED CORPORATION	Research, manufacturing and sales in LED epitaxial wafers	(USD) 2,388,120 (84,000)	(i) UNITED LED CORPORATION HONG KONG LIMITED	-	-	575,707 (20,250)	25.14%	(71,152) (16,338)	44,848 (10,298)	-	
HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	Sales and manufacturing of integrated circuits	(RMB) 13,697,755 (3,145,294)	(ii) OAKWOOD ASSOCIATES LIMITED	-	-	8,787,770 (309,102)	99.9985% (Note 4)	2,081,133 (477,872)	22,261,414 (5,111,691)	-	
UNITEDDS SEMICONDUCTOR (SHANDONG) CO., LTD.	Design support of integrated circuits	(RMB) 130,650 (30,000)	(iii) HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	-	-	-	99.9985%	66,244 (15,211)	292,608 (67,189)	-	
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Sales and manufacturing of integrated circuits	(RMB) 59,653,893 (13,697,794)	(i) UNITED MICROCHIP CORPORATION and (ii) HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	-	-	27,433,983 (964,966) (Notes)	67.76%	(4,027,417) (924,780)	14,590,387 (3,350,261)	-	
Investment amounts authorized by Investment Commission, MOEA				Upper limit on investment							
December 31, 2020				\$36,841,527 (USD 1,295,868)		\$141,395,848 (USD 2,127,718)					

Note 1 : The methods for engaging in investment in Mainland China include the following:
(i) Direct investment in Mainland China.
(ii) Indirectly investment in Mainland China through companies registered in a third region (Please specify the name of the company in third region).
(iii) Other methods.

Note 2 : The investment income (loss) recognized in current period, the investment income (loss) were determined based on the following basis:
(i) The financial report was audited by an international certified public accounting firm in cooperation with an R.O.C. accounting firm.
(ii) The financial statements were audited by the auditors of the parent company.

Note 3 : Initial investment amounts denominated in foreign currencies are translated into New Taiwan Dollars using the spot rates at the financial report date.
Note 4 : The Company indirectly invested in HEJIAN TECHNOLOGY (SUZHOU) CO., LTD. via investment in BEST ELITE INTERNATIONAL LIMITED, an equity investee. The investment has been approved by the Investment Commission, MOEA in the total amount of USD 383,569 thousand. As of December 31, 2020, the amount of investment has been all remitted.
Note 5 : The investment to UNITED SEMICONDUCTOR (XIAMEN) CO., LTD. (USCXM) from HEJIAN TECHNOLOGY (SUZHOU) CO., LTD. and indirectly invested in USCXM via investment in GREEN EARTH LIMITED. The consent to invest in USCXM's investment has been approved by the Investment Commission, MOEA in the total amount of USD 1,722,549 thousand.
As of December 31, 2020, the amount of investment USD 357,138 thousand has not yet been remitted.

ATTACHMENT 12 (Information of major shareholders as of December 31, 2020)

UNITED MICROELECTRONICS CORPORATION

Name	Number of shares	Percentage of ownership (%)
JPMorgan Chase Bank, N.A. acting in its capacity as depository and representative to the holders of ADRs	636,313,225	5.12

Independent Auditors' Report Translated from Chinese

To United Microelectronics Corporation

**UNITED MICROELECTRONICS CORPORATION
PARENT COMPANY ONLY
FINANCIAL STATEMENTS
WITH REPORT OF INDEPENDENT AUDITORS
FOR THE YEARS ENDED
DECEMBER 31, 2020 AND 2019**

Opinion

We have audited the accompanying parent company only balance sheets of United Microelectronics Corporation (the "Company") as of December 31, 2020 and 2019, and the related parent company only statements of comprehensive income, changes in equity and cash flows for the years ended December 31, 2020 and 2019, and notes to the parent company only financial statements, including the summary of significant accounting policies (together "the parent company only financial statements").

In our opinion, based on our audits and the reports of other auditors (please refer to the *Other Matter – Making Reference to the Audits of Component Auditors* section of our report), the parent company only financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and its financial performance and cash flows for the years ended December 31, 2020 and 2019, in conformity with the requirements of the Regulations Governing the Preparation of Financial Reports by Securities Issuers.

Basis for Opinion

We conducted our audits in accordance with the Regulations Governing Auditing and Attestation of Financial Statements by Certified Public Accountants and auditing standards generally accepted in the Republic of China. Our responsibilities under those standards are further described in the *Auditors' Responsibilities for the Audit of the Parent Company Only Financial Statements* section of our report. We are independent of the Company in accordance with the Norm of Professional Ethics for Certified Public Accountant of the Republic of China (the "Norm"), and we have fulfilled our other ethical responsibilities in accordance with the Norm. Based on our audits and the reports of other auditors, we believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Address: No. 3 Li-Hsin Road II, Hsinchu Science Park, Hsinchu City, Taiwan, R.O.C.
Telephone: 886-3-578-2258

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of 2020 parent company only financial statements. These matters were addressed in the context of our audit of the parent company only financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

The reader is advised that parent company only financial statements have been prepared originally in Chinese. In the event of a conflict between these financial statements and the original Chinese version or difference in interpretation between the two versions, the Chinese language financial statements shall prevail.

Valuation for slow-moving inventories

As of December 31, 2020, the Company's net inventories amounted to NT\$16,838 million. As the semiconductor industry is characterized by rapid changes in technology, management had to evaluate and estimate a reserve for slow-moving inventories that are expected to be written-off or otherwise disposed of at a future date. Auditing the valuation for slow-moving inventories was complex due to the judgmental nature of the Company's estimation of the appropriate amount of the slow-moving inventories reserve, utilizing key inputs including historical usage, write-off activities and inventory aging. Therefore, we consider this is a key audit matter.

We obtained an understanding, evaluated the design and tested the operating effectiveness of internal controls over the Company's slow-moving inventories reserve process. For example, we tested the control over management's review of the reserve method and the key inputs used in the valuation process. To test the slow-moving inventories reserve, our audit procedures included, amongst others, evaluate the appropriateness of management's methodology to determine inventory aging and inventory reserve percentages, compare slow-moving inventories reserve to historical usage and write-off activities and test the accuracy and completeness of the underlying data used in such determination. We also recalculated inventory reserve for the application of the reserve percentages to the inventory aging categories.

In addition, we evaluated the adequacy of disclosures of inventories. Please refer to Notes 5 and 6 to the parent company only financial statements.

Other Matter – Making Reference to the Audits of Component Auditors

We did not audit the financial statements of certain subsidiaries, associates and joint ventures accounted for under the equity method. Those financial statements were audited by other auditors, whose reports thereon have been furnished to us, and our opinions expressed herein are based solely on the reports of other auditors. These subsidiaries, associates and joint ventures under equity method amounted to NT\$29,135 million and NT\$11,132 million, representing 9.14% and 3.68% of total assets as of December 31, 2020 and 2019, respectively. The related shares of profits from the subsidiaries, associates and joint ventures under the equity method amounted to NT\$6,643 million and NT\$1,174 million, representing 22.27% and 12.85% of the income before tax for the years ended December 31, 2020 and 2019, respectively, and the related shares of other comprehensive income from the subsidiaries, associates and joint ventures under the equity method amounted to NT\$2,714 million and NT\$1,189 million, representing 8.04% and 9.06% of the comprehensive income for the years ended December 31, 2020 and 2019, respectively.

Responsibilities of Management and Those Charged with Governance for the Parent Company Only Financial Statements

Management is responsible for the preparation and fair presentation of the parent company only financial statements in accordance with the requirements of the Regulations Governing the Preparation of Financial Reports by Securities Issuers and for such internal control as management determines is necessary to enable the preparation of parent company only financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the parent company only financial statements, management is responsible for assessing the ability to continue as a going concern of the Company, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance, including audit committee, are responsible for overseeing the financial reporting process of the Company.

Auditor's Responsibilities for the Audit of the Parent Company Only Financial Statements

Our objectives are to obtain reasonable assurance about whether the parent company only financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with auditing standards generally accepted in the Republic of China will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these parent company only financial statements.

As part of an audit in accordance with auditing standards generally accepted in the Republic of China, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

1. Identify and assess the risks of material misstatement of the parent company only financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

2. Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal control of the Company.
 3. Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
 4. Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the ability to continue as a going concern of the Company. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the parent company only financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.
 5. Evaluate the overall presentation, structure and content of the parent company only financial statements, including the accompanying notes, and whether the parent company only financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
 6. Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Company to express an opinion on the parent company only financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.
- We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.
- We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of 2020 parent company only financial statements and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Chiu, Wan-Ju

Hsu, Hsin-Min

Ernst & Young, Taiwan

February 24, 2021

Notice to Readers

The accompanying parent company only financial statements are intended only to present the financial position, results of operations and cash flows in accordance with accounting principles and practices generally accepted in the Republic of China and not those of any other jurisdictions. The standards, procedures and practices to audit such parent company only financial statements are those generally accepted and applied in the Republic of China.

Accordingly, the accompanying parent company only financial statements and report of independent auditors are not intended for use by those who are not informed about the accounting principles or auditing standards generally accepted in the Republic of China, and their applications in practice. As the financial statements are the responsibility of the management, Ernst & Young cannot accept any liability for the use of, or reliance on, the English translation or for any errors or misunderstandings that may derive from the translation.

English Translation of Parent Company Only Financial Statements Originally Issued in Chinese
UNITED MICROELECTRONICS CORPORATION
PARENT COMPANY ONLY BALANCE SHEETS
December 31, 2020 and 2019
(Expressed in Thousands of New Taiwan Dollars)

	As of December 31,	
	2020	2019
Current assets		
Cash and cash equivalents	\$ 69,049,896	\$ 66,534,836
Financial assets at fair value through profit or loss, current	1,051,718	668,476
Contract assets, current	111,094	106,290
Notes receivable	-	98
Accounts receivable, net	14,662,518	12,900,009
Accounts receivable-related parties, net	5,546,739	6,683,936
Other receivables	1,090,430	1,727,109
Current tax assets	17,563	19,227
Inventories, net	16,838,262	16,305,112
Prepayments	1,044,791	1,691,526
Other current assets	13,554,966	1,229,680
Total current assets	122,967,977	107,866,299
Non-current assets		
Financial assets at fair value through profit or loss, noncurrent	4,914,724	4,445,752
Financial assets at fair value through other comprehensive income, noncurrent	9,950,639	14,388,597
Investments accounted for under the equity method	98,736,624	80,506,509
Property, plant and equipment	66,640,272	79,486,445
Right-of-use assets	2,823,209	3,261,999
Intangible assets	4,167,373	4,082,826
Deferred tax assets	4,422,010	5,618,879
Prepayment for equipment	552,414	27,699
Refundable deposits	2,253,285	2,532,392
Other noncurrent assets-others	1,469,539	533,567
Total non-current assets	195,930,089	194,884,665
Total assets	\$ 318,898,066	\$ 302,750,964

(continued)

English Translation of Parent Company Only Financial Statements Originally Issued in Chinese
UNITED MICROELECTRONICS CORPORATION
PARENT COMPANY ONLY BALANCE SHEETS
December 31, 2020 and 2019
(Expressed in Thousands of New Taiwan Dollars)

	As of December 31,		Notes
	2020	2019	
Liabilities and Equity			
Current liabilities			
Short-term loans	\$ 1,283,850	\$ 1,355,850	
Financial liabilities at fair value through profit or loss, current	2,326	-	
Contract liabilities, current	723,046	547,024	
Accounts payable	5,518,361	6,008,570	
Other payables	13,639,513	10,580,952	
Payables on equipment	3,061,761	2,047,760	
Current tax liabilities	724,873	415,719	
Lease liabilities, current	244,751	248,788	
Current portion of long-term liabilities	2,999,910	20,593,825	
Other current liabilities	1,423,623	1,966,284	
Total current liabilities	29,622,014	43,764,772	
Non-current liabilities			
Contract liabilities, noncurrent	456,480	482,080	
Bonds payable	16,690,474	18,687,591	
Long-term loans	7,500,000	3,900,000	
Deferred tax liabilities	1,178,595	1,629,818	
Lease liabilities, noncurrent	2,586,813	2,988,314	
Net defined benefit liabilities, noncurrent	4,162,654	4,025,373	
Guarantee deposits	162,973	95,887	
Other noncurrent liabilities-others	20,878,317	20,372,772	
Total non-current liabilities	53,616,306	52,181,835	
Total liabilities	83,238,320	95,946,607	
Equity			
Capital			
Common stock			
Capital collected in advance	124,224,015	117,243,187	
Additional paid-in capital	-	332,611	
Premiums			
Treasury stock transactions	36,809,962	34,404,110	
The differences between the fair value of the consideration paid or received from acquiring or disposing subsidiaries and the carrying amounts of the subsidiaries	3,340,664	2,744,391	
Recognition of changes in subsidiaries' ownership	466,457	573,336	
Share of changes in net assets of associates and joint ventures accounted for using equity method			
Employee stock options	93,880	1,218	
Stock options	88,504	123,268	
Restricted stock for employees	-	214,455	
Other	2,170,666	1,476,405	
Retained earnings	241,081	13,211	
Legal reserve			
Special reserve	12,536,526	11,572,579	
Unappropriated earnings	11,022,314	14,513,940	
Other components of equity	56,617,520	34,733,761	
Exchange differences on translation of foreign operations	(11,890,876)	(8,948,337)	
Unrealized gains or losses on financial assets measured at fair value through other comprehensive income	3,726,229	(2,073,977)	
Unearned employee compensation	(3,667,395)	-	
Treasury stock	(119,801)	(119,801)	
Total equity	235,659,746	206,804,357	
Total liabilities and equity	\$ 318,898,066	\$ 302,750,964	

The accompanying notes are an integral part of the parent company only financial statements.

English Translation of Parent Company Only Financial Statements Originally Issued in Chinese

 UNITED MICROELECTRONICS CORPORATION
 PARENT COMPANY ONLY STATEMENTS OF COMPREHENSIVE INCOME

For the years ended December 31, 2020 and 2019

(Expressed in Thousands of New Taiwan Dollars, Except for Earnings per Share)

	Notes	For the years ended December 31,	
		2020	2019
Operating revenues	4, 6(20), 7	\$ 135,280,403	\$ 123,622,436
Operating costs	4, 6(4), 6(10), 6(15), 6(19), 6(20), 6(21), 7	(96,228,137)	(96,461,206)
Gross profit		<u>39,052,266</u>	<u>27,161,230</u>
Operating expenses	4, 6(3), 6(10), 6(15), 6(19), 6(21), 7		
Sales and marketing expenses		(3,075,837)	(2,870,050)
General and administrative expenses		(4,388,589)	(3,791,439)
Research and development expenses		(9,536,311)	(9,719,780)
Expected credit impairment gains (losses)		472,167	(689,095)
Subtotal		<u>(16,528,570)</u>	<u>(17,070,364)</u>
Net other operating income and expenses	4, 6(16), 6(22), 7	935,334	191,108
Operating income		<u>23,459,030</u>	<u>10,281,974</u>
Non-operating income and expenses			
Interest income	4	426,172	584,052
Other income	4	539,709	619,123
Other gains and losses	4, 6(23), 9(5)	(1,116,244)	1,017,178
Finance costs	6(23)	(609,520)	(861,601)
Share of profit or loss of subsidiaries, associates and joint ventures	4, 6(6)	8,022,897	(2,872,245)
Bargain purchase gain	6(6)	-	171,585
Exchange gain, net	4,12	-	193,033
Exchange loss, net	4,12	(887,372)	-
Subtotal		<u>6,375,642</u>	<u>(1,148,875)</u>
Income from continuing operations before income tax		<u>29,834,672</u>	<u>9,133,099</u>
Income tax (expense) benefit	4, 5, 6(25)	(645,183)	574,515
Net income		<u>29,189,489</u>	<u>9,707,614</u>
Other comprehensive income (loss)	6(24)		
Items that will not be reclassified subsequently to profit or loss			
Remeasurements of defined benefit pension plans	4, 5, 6(15)	(192,581)	106,403
Unrealized gains or losses from equity instruments investments measured at fair value through other comprehensive income		4,574,491	5,605,384
Share of other comprehensive income (loss) of subsidiaries, associates and joint ventures which will not be reclassified subsequently to profit or loss		3,065,086	1,112,547
Income tax related to items that will not be reclassified subsequently	4, 5, 6(25)	54,424	(158,260)
Items that may be reclassified subsequently to profit or loss			
Exchange differences on translation of foreign operations		(2,920,173)	(1,045,504)
Share of other comprehensive income (loss) of subsidiaries, associates and joint ventures which may be reclassified subsequently to profit or loss		(64,686)	(2,204,824)
Income tax related to items that may be reclassified subsequently	4, 5, 6(25)	42,320	8,252
Total other comprehensive income, net of tax		<u>4,558,881</u>	<u>3,423,998</u>
Total comprehensive income		<u>\$ 33,748,370</u>	<u>\$ 13,131,612</u>
Earnings per share (NTD)	4, 6(26)		
Earnings per share-basic		<u>\$ 2.42</u>	<u>\$ 0.82</u>
Earnings per share-diluted		<u>\$ 2.35</u>	<u>\$ 0.76</u>

The accompanying notes are an integral part of the parent company only financial statements.

English Translation of Parent Company Only Financial Statements Originally Issued in Chinese
 UNITED MICROELECTRONICS CORPORATION
 PARENT COMPANY ONLY STATEMENTS OF CHANGES IN EQUITY
 For the years ended December 31, 2020 and 2019
 (Expressed in Thousands of New Taiwan Dollars)

Notes	Capital				Retained Earnings			Other Components of Equity				Total Equity
	Common Stock	Collected in Advance	Additional Paid-in Capital	Legal Reserve	Special Reserve	Unappropriated Earnings	Exchange Differences on Translation of Foreign Operations	Unrealized Gains or Losses on Financial Assets Measured at Fair Value through Other Comprehensive Income	Gains or Losses on Hedging Instruments	Unearned Employee Compensation	Treasury Stock	
	\$ 124,243,187	\$ -	\$ 40,388,936	\$ 10,865,280	\$ -	\$ 50,723,263	\$ (5,706,261)	\$ (8,819,556)	\$ (2,658)	\$ -	\$ (5,647,430)	\$ 206,045,361
6(18)	-	-	-	707,299	-	(707,299)	-	-	-	-	-	-
	-	-	-	-	14,513,940	(14,513,940)	-	-	-	-	-	-
	-	-	-	-	(6,916,105)	(6,916,105)	-	-	-	-	-	(6,916,105)
	-	-	-	-	9,707,614	9,707,614	-	-	-	-	-	9,707,614
6(24)	-	-	-	-	-	84,744	(3,242,076)	6,581,330	-	-	-	3,423,998
	-	-	-	-	-	9,792,358	(3,242,076)	6,581,330	-	-	-	13,131,612
4, 6(19)	-	-	377,004	-	-	-	-	-	-	-	-	377,004
4, 6(13), 6(18)	-	332,611	130,804	-	-	-	-	-	-	-	-	463,415
4, 6(18)	-	-	-	-	-	-	-	-	-	-	(2,859,498)	(2,859,498)
4, 6(18)	(7,000,000)	-	(1,387,127)	-	-	-	-	-	-	8,387,127	-	-
	-	-	-	14,655	-	387,654	-	(387,654)	-	-	-	14,655
4	-	-	1,179	-	-	(22,280)	-	-	-	-	-	(21,101)
	-	-	9,485	-	-	-	-	-	-	-	-	9,485
6(5)	-	-	-	-	-	(551,903)	-	551,903	-	-	-	-
	-	-	15,458	-	-	(3,457,987)	-	-	2,658	-	-	(3,440,471)
6(18)	117,243,187	332,611	39,550,394	11,572,579	14,513,940	34,733,761	(8,948,337)	(2,073,977)	-	-	(119,801)	206,804,357
6(18)	-	-	-	963,947	-	(963,947)	-	-	-	-	-	-
	-	-	-	-	-	(9,765,155)	-	-	-	-	-	(9,765,155)
	-	-	-	-	(3,491,626)	3,491,626	-	-	-	-	-	-
	-	-	-	-	29,189,489	29,189,489	-	-	-	-	-	29,189,489
6(24)	-	-	-	-	-	(157,529)	(2,942,539)	7,658,949	-	-	-	4,558,881
	-	-	-	-	-	29,031,960	(2,942,539)	7,658,949	-	-	-	33,748,370
4, 6(19)	2,000,300	-	2,628,061	-	-	-	-	-	-	(3,667,395)	-	2,639,238
4, 6(13), 6(18)	4,980,528	(332,611)	1,862,366	-	-	-	-	-	-	-	-	6,510,283
4, 6(18)	-	-	(29,388)	-	-	33,378	-	(33,378)	-	-	(1,678,272)	(1,678,272)
	-	-	(106,879)	-	-	-	-	-	-	-	-	(106,879)
4	-	-	(12,18)	-	-	(816,652)	-	-	-	-	-	(817,850)
	-	-	12,927	-	-	-	-	-	-	-	-	12,927
6(5)	-	-	-	-	-	1,825,365	-	(1,825,365)	-	-	-	-
	-	-	(705,049)	-	-	(952,856)	-	-	-	-	-	(1,657,885)
6(18)	\$ 124,224,015	\$ -	\$ 43,211,214	\$ 12,536,526	\$ 11,022,314	\$ 56,617,520	\$ (11,890,876)	\$ 3,726,229	\$ -	\$ (119,801)	\$ -	\$ 235,659,746

The accompanying notes are an integral part of the parent company only financial statements.

English Translation of Parent Company Only Financial Statements Originally Issued in Chinese
UNITED MICROELECTRONICS CORPORATION
PARENT COMPANY ONLY STATEMENTS OF CASH FLOWS
For the years ended December 31, 2020 and 2019
(Expressed in Thousands of New Taiwan Dollars)

	For the years ended December 31,	
	2020	2019
Cash flows from operating activities:		
Net income before tax	\$ 29,834,672	\$ 9,133,099
Adjustments to reconcile net income before tax to net cash provided by operating activities:		
Depreciation	28,330,741	31,630,966
Amortization	2,029,391	1,872,075
Expected credit impairment (gains) losses	(472,167)	689,095
Net gain of financial assets and liabilities at fair value through profit or loss	(828,003)	(964,614)
Interest expense	562,082	818,313
Interest income	(426,172)	(584,052)
Dividend income	(539,709)	(619,123)
Share-based payment	959,219	366,186
Share of (profit) loss of subsidiaries, associates and joint ventures	(8,022,897)	2,872,245
Gain on disposal of property, plant and equipment	(249,572)	(137,308)
Gain on disposal of investments	(499)	-
Exchange gain on financial assets and liabilities	(71,664)	(209,799)
Bargain purchase gain	-	(171,585)
Amortization of deferred government grants	(1,410,008)	(1,138,743)
Income and expense adjustments	19,860,742	34,423,656
Changes in operating assets and liabilities:		
Financial assets and liabilities at fair value through profit or loss	199,655	151,453
Contract assets	(9,980)	(26,198)
Notes receivable and accounts receivable	(525,464)	1,406,598
Other receivables	(123,130)	14,542
Inventories	(752,559)	(1,165,198)
Prepayments	(272,585)	737,806
Other current assets	(71,566)	895,067
Contract fulfillment costs	(21,960)	36,539
Contract liabilities	190,417	101,987
Accounts payable	(413,353)	464,631
Other payables	2,926,889	(857,045)
Other current liabilities	(176,758)	537,918
Net defined benefit liabilities	(55,300)	(35,398)
Other noncurrent liabilities-others	10,750	-
Cash generated from operations	50,600,470	45,819,457
Interest received	468,405	552,382
Dividend received	972,612	715,515
Interest paid	(408,427)	(391,559)
Income tax refunded (paid)	517,370	(253,547)
Net cash provided by operating activities	52,150,430	46,442,248

(continued)

English Translation of Parent Company Only Financial Statements Originally Issued in Chinese
UNITED MICROELECTRONICS CORPORATION
PARENT COMPANY ONLY STATEMENTS OF CASH FLOWS
For the years ended December 31, 2020 and 2019
(Expressed in Thousands of New Taiwan Dollars)

	For the years ended December 31,	
	2020	2019
Cash flows from investing activities:		
Acquisition of financial assets at fair value through profit or loss	\$ (172,452)	\$ -
Proceeds from disposal of financial assets at fair value through other comprehensive income or loss	-	44,466
Acquisition of investments accounted for under the equity method	(9,082)	(16,485,610)
Proceeds from capital reduction of investments	27,200	750,000
Acquisition of property, plant and equipment	(15,629,312)	(10,966,528)
Proceeds from disposal of property, plant and equipment	482,602	323,807
Increase in refundable deposits	(18,308)	(248,459)
Decrease in refundable deposits	296,368	268,717
Increase in other receivables	(2,113,720)	(1,253,320)
Decrease in other receivables	3,204,940	-
Acquisition of intangible assets	(1,891,020)	(2,112,818)
Government grants related to assets acquisition	20,230	51,862
Increase in other financial assets	(16,645,591)	-
Decrease in other financial assets	3,955,778	-
Increase in other noncurrent assets-others	(7,049)	(15,074)
Decrease in other noncurrent assets-others	-	8,786
Net cash used in investing activities	<u>(28,499,416)</u>	<u>(29,634,171)</u>
Cash flows from financing activities:		
Increase in short-term loans	1,918,175	4,199,985
Decrease in short-term loans	(1,912,310)	(4,177,125)
Cash payments for the principal portion of the lease liability	(323,743)	(462,642)
Redemption of bonds	(13,702,875)	(2,500,000)
Proceeds from long-term loans	13,000,000	8,859,840
Repayments of long-term loans	(8,900,000)	(5,279,660)
Increase in guarantee deposits	142,298	207,596
Decrease in guarantee deposits	(172,566)	(16,748)
Cash dividends	(9,765,694)	(6,911,058)
Treasury stock acquired	(1,678,272)	(2,972,243)
Treasury stock sold to employees	1,677,900	-
Others	2,120	10,818
Net cash used in financing activities	<u>(19,714,967)</u>	<u>(9,041,237)</u>
Effect of exchange rate changes on cash and cash equivalents	<u>(1,420,987)</u>	<u>(574,174)</u>
Net increase in cash and cash equivalents	2,515,060	7,192,666
Cash and cash equivalents at beginning of year	66,534,836	59,342,170
Cash and cash equivalents at end of year	<u>\$ 69,049,896</u>	<u>\$ 66,534,836</u>

The accompanying notes are an integral part of the parent company only financial statements.

UNITED MICROELECTRONICS CORPORATION
NOTES TO PARENT COMPANY ONLY FINANCIAL STATEMENTS
 For the Years Ended December 31, 2020 and 2019
 (Expressed in Thousands of New Taiwan Dollars unless Otherwise Specified)

1. HISTORY AND ORGANIZATION

United Microelectronics Corporation (the Company) was incorporated in Republic of China (R.O.C.) in May 1980 and commenced operations in April 1982. The Company is a full service semiconductor wafer foundry, and provides a variety of services to satisfy customer needs. The Company's ordinary shares were publicly listed on the Taiwan Stock Exchange (TWSE) in July 1985 and its American Depositary Shares (ADSs) were listed on the New York Stock Exchange (NYSE) in September 2000.

The address of its registered office and principal place of business is No. 3, Li-Hsin Road II, Hsinchu Science Park, Hsinchu City, Taiwan.

2. DATE AND PROCEDURES OF AUTHORIZATION OF FINANCIAL STATEMENTS FOR ISSUE

The parent company only financial statements of the Company were authorized for issue in accordance with a resolution of the Board of Directors' meeting on February 24, 2021.

3. NEWLY ISSUED OR REVISED STANDARDS AND INTERPRETATIONS

(1) The Company applied International Financial Reporting Standards, International Accounting Standards, and Interpretations issued, revised or amended which are endorsed by Financial Supervisory Commission ("FSC") and become effective for annual periods beginning on or after January 1, 2020. There were no newly adopted or revised standards and interpretations that have material impact on the Company's financial position and performance.

(2) Standards issued by International Accounting Standards Board ("IASB") which are endorsed by FSC, but not yet adopted by the Company are listed below:

<u>New, Revised or Amended Standards and Interpretations</u>	<u>Effective Date issued by IASB</u>
Interest Rate Benchmark Reform - Phase 2 (Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16)	January 1, 2021

a. Interest Rate Benchmark Reform - Phase 2 (Amendments to IFRS 9 "Financial Instruments", "IFRS 9"), IAS 39 "Financial Instruments: Recognition and Measurement" ("IAS 39"), IFRS 7 "Financial Instruments: Disclosures" ("IFRS 7"), IFRS 4 "Insurance Contracts" ("IFRS 4") and IFRS 16 "Leases" (IFRS 16)

The final phase amendments mainly relate to the effects of the interest rate benchmark reform on the companies' financial statements:

- i. A company will not have to derecognise or adjust the carrying amount of financial instruments for changes to contractual cash flows as required by the reform, but will instead update the effective interest rate to reflect the change to the alternative benchmark rate;
- ii. A company will not have to discontinue its hedge accounting solely because it makes changes required by the reform, if the hedge meets other hedge accounting criteria; and
- iii. A company will be required to disclose information about new risks arising from the reform and how it manages the transition to alternative benchmark rates.

The abovementioned standards and interpretations were issued by IASB and endorsed by FSC so that they are applicable for annual periods beginning on or after January 1, 2021. The standards and interpretations listed above have no material impact on the Company's financial position and performance.

(3) Standards issued by International Accounting Standards Board ("IASB") but not yet endorsed by FSC (the effective dates are to be determined by FSC) are listed below:

<u>New, Revised or Amended Standards and Interpretations</u>	<u>Effective Date issued by IASB</u>
IFRS 10 "Consolidated Financial Statements" and IAS 28 "Investments in Associates and Joint Ventures" - Sale or Contribution of Assets between an Investor and its Associate or Joint Ventures	January 1, 2023
IFRS 17 "Insurance Contracts"	January 1, 2023
Amendments to IAS 1 "Presentation of Financial Statements" - Classification of Liabilities as Current or Non-current	January 1, 2022
Narrow-scope amendments of IFRS, including Amendments to IFRS 3, Amendments to IAS 16, Amendments to IAS 37	January 1, 2022
Annual Improvements to IFRS Standards 2018 - 2020: Amendments to IFRS 1 "First-time Adoption of International Financial Reporting Standards"	January 1, 2022
Amendments to IFRS 9 "Financial Instruments"	January 1, 2022
Amendments to IFRS 16 "Leases"	January 1, 2022
Amendments to IAS 41 "Agriculture"	January 1, 2023
Amendments to IAS 1 "Presentation of Financial Statements" - Disclosure Initiative - Accounting Policies	January 1, 2023

- ii. **Property, Plant and Equipment: Proceeds before Intended Use (Amendments to IAS 16)**
The amendments prohibit a company from deducting from the cost of property, plant and equipment amounts received from selling items produced while the company is preparing the asset for its intended use. Instead, a company will recognise such sales proceeds and related cost in profit or loss.

- iii. **Onerous Contracts - Cost of Fulfilling a Contract (Amendments to IAS 37)**
The amendments clarify what costs a company should include as the cost of fulfilling a contract when assessing whether a contract is onerous.

e. Annual Improvements to IFRS Standards 2018 – 2020

- i. **Amendment to IFRS 1**
The amendment simplifies the application of IFRS 1 by a subsidiary that becomes a first-time adopter after its parent in relation to the measurement of cumulative translation differences.
- ii. **Amendment to IFRS 9 Financial Instruments**
The amendment clarifies the fees a company includes when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the original financial liability.
- iii. **Amendment to Illustrative Examples Accompanying IFRS 16 Leases**
The amendment to Illustrative Example 13 accompanying IFRS 16 modifies the treatment of lease incentives relating to lessee's leasehold improvements.
- f. **IAS 1 "Presentation of Financial Statements" ("IAS 1") - Disclosure Initiative - Accounting Policies (Amendment)**
The amendments improve accounting policy disclosures that to provide more useful information to investors and other primary users of the financial statements.
- g. **IAS 8 "Accounting Policies, Changes in Accounting Estimates and Errors" ("IAS 8") - Definition of Accounting Estimates (Amendment)**
The amendments introduce the definition of accounting estimates and included other amendments to IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors to help companies distinguish changes in accounting estimates from changes in accounting policies.

The Company is currently evaluating the potential impact of the aforementioned standards and interpretations listed (b) ~ (g) to the Company's financial position and performance, and the related impact will be disclosed when the evaluation is completed.

4. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

(1) Statement of Compliance

The Company's parent company only financial statements were prepared in accordance with Regulations Governing the Preparation of Financial Reports by Securities Issuers (Regulations).

Effective Date issued by
IASB

New, Revised or Amended Standards and Interpretations
Amendments to IAS 8 "Accounting Policies, Changes in Accounting Estimates and Errors" – Definition of Accounting Estimates

January 1, 2023

The potential effects of adopting the standards or interpretations issued by IASB but not yet endorsed by FSC on the Company's financial statements in future periods are summarized as below:

- b. IFRS 10 "Consolidated Financial Statements" ("IFRS 10") and IAS 28 "Investments in Associates and Joint Ventures" – Sale or Contribution of Assets between an Investor and its Associates or Joint Ventures (Amendment) ("IAS 28")
The amendments address the inconsistency between the requirements in IFRS 10 and IAS 28, in dealing with the loss of control of a subsidiary that is contributed to an associate or a joint venture. IAS 28 restricts gains and losses arising from contributions of non-monetary assets to an associate or a joint venture to the extent of the interest attributable to the other equity holders in the associate or joint venture. IFRS 10 requires full profit or loss recognition on the loss of control of a subsidiary. IAS 28 was amended so that the gain or loss resulting from the sale or contribution of assets that constitute a business as defined in IFRS 3 "Business Combinations" (IFRS 3) between an investor and its associate or joint venture is recognized in full.

IFRS 10 was also amended so that the gain or loss resulting from the sale or contribution of a subsidiary that does not constitute a business as defined in IFRS 3 between an investor and its associate or joint venture is recognized only to the extent of the unrelated investors' interests in the associate or joint venture.

- c. IAS 1 "Presentation of Financial Statements" ("IAS 1") - Classification of Liabilities as Current or Non-current (Amendment)

These are the amendments to paragraphs 69-76 of IAS 1 presentation of financial statements and the amended paragraphs related to the classification of liabilities as current or non-current.

- d. Narrow-scope amendments of IFRS, including Amendments to IFRS 3, Amendments to IAS 16, Amendments to IAS 37

- i. **Updating a Reference to the Conceptual Framework (Amendments to IFRS 3)**

The amendments updated IFRS 3 by replacing a reference to an old version of the Conceptual Framework for Financial Reporting with a reference to the latest version, which was issued in March 2018. The amendments also added an exception to the recognition principle of IFRS 3 to avoid the issue of potential "day 2" gains or losses arising for liabilities and contingent liabilities. Besides, the amendments clarify existing guidance in IFRS 3 for contingent assets that would not be affected by replacing the reference to the Conceptual Framework.

(2) Basis of Preparation

The parent company only financial statements have been prepared on a historical cost basis, except for financial instruments measured at fair value.

The Company prepared parent company only financial statements in accordance with Article 21 of the Regulations, which provided that the profit or loss and other comprehensive income for the period presented in the parent company only financial statements shall be the same as the profit or loss and other comprehensive income attributable to stockholders of the parent presented in the consolidated financial statements for the period, and the total equity presented in the parent company only financial statements shall be the same as the equity attributable to the parent company presented in the consolidated financial statements. Therefore, the Company accounted for its investments in subsidiaries using equity method and, accordingly, made necessary adjustments.

(3) Foreign Currency Transactions

The Company's parent company only financial statements are presented in its functional currency, New Taiwan Dollars (NTD). Items included in the financial statements are measured using that functional currency.

Transactions in foreign currencies are initially recorded by the Company functional currency rates prevailing at the transaction date. Monetary assets and liabilities denominated in foreign currencies are translated into functional currency at the closing rates of exchange at the reporting date. Non-monetary items measured at fair value in foreign currencies are translated using the exchange rates at the date when the fair value is determined. Non-monetary items that are measured at historical cost in foreign currencies are translated using the exchange rates as at the dates of the initial transactions.

All exchange differences arising on the settlement of monetary items or on translating monetary items are taken to profit or loss in the period in which they arise except for the following:

- a. Exchange differences arising from foreign currency borrowings for an acquisition of a qualifying asset to the extent that they are regarded as an adjustment to interest costs are included in the borrowing costs that are eligible for capitalization.
- b. Foreign currency derivatives within the scope of IFRS 9 are accounted for based on the accounting policy for financial instruments.
- c. Exchange differences arising on a monetary item that is part of a reporting entity's net investment in a foreign operation are recognized initially in other comprehensive income and reclassified from equity to profit or loss upon disposal of such investment.

When a gain or loss on a non-monetary item is recognized in other comprehensive income, any exchange component of that gain or loss is recognized in other comprehensive income. When a gain or loss on a non-monetary item is recognized in profit or loss, any exchange component of that gain or loss is recognized in profit or loss.

(4) Translation of Foreign Currency Financial Statements

The assets and liabilities of foreign operations are translated into NTD at the closing rate of exchange prevailing at the reporting date and their income and expenses are translated at an average exchange rate for the period. The exchange differences arising on the translation are recognized in other comprehensive income. On disposal of a foreign operation, the cumulative amount of the exchange differences relating to that foreign operation, recognized in other comprehensive income and accumulated in the separate component of equity, is reclassified from equity to profit or loss when the gain or loss on disposal is recognized.

On partial disposal of a subsidiary that includes a foreign operation that does not result in a loss of control, the proportionate share of the cumulative amount of the exchange differences recognized in other comprehensive income is re-attributed to the non-controlling interests in that foreign operation. On partial disposal of an associate or a joint venture that includes a foreign operation that does not result in a loss of significant influence or joint control, only the proportionate share of the cumulative amount of the exchange differences recognized in other comprehensive income is reclassified to profit or loss.

Any goodwill and any fair value adjustments to the carrying amounts of assets and liabilities arising from the acquisition of a foreign operation are treated as assets and liabilities of the foreign operation and expressed in its functional currency.

(5) Current and Non-Current Distinction

An asset is classified as current when:

- a. the Company expects to realize the asset, or intends to sell or consume it, in its normal operating cycle;
- b. the Company holds the asset primarily for the purpose of trading;
- c. the Company expects to realize the asset within twelve months after the reporting period; or
- d. the asset is cash or a cash equivalent unless the asset is restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period.

All other assets are classified as non-current.

A liability is classified as current when:

- a. the Company expects to settle the liability in normal operating cycle;
- b. the Company holds the liability primarily for the purpose of trading;
- c. the liability is due to be settled within twelve months after the reporting period; or
- d. the Company does not have an unconditional right to defer settlement of the liability for at least twelve months after the reporting date. Terms of a liability that could, at the option of the counterparty, result in its settlement by the issue of equity instruments do not affect its classification.

All other liabilities are classified as non-current.

(6) Cash Equivalents

Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash and with maturity dates that do not present significant risks of changes in value resulting from changes in interest rates, including time deposits with original maturities of three months or less and repurchase agreements collateralized by government bonds and corporate bonds.

(7) Financial Instruments

Financial assets and financial liabilities are recognized when the Company becomes a party to the contractual provisions of the instrument.

The Company determines the classification of its financial assets at initial recognition. In accordance with IFRS 9 and the Regulations, financial assets of the Company are classified as financial assets at fair value through profit or loss, financial assets at fair value through other comprehensive income, and financial assets measured at amortized cost.

Purchase or sale of financial assets and liabilities are recognized using trade date accounting. All financial assets are recognized initially at fair value plus, in the case of investments not at fair value through profit or loss, directly attributable costs. Financial assets at fair value through profit or loss are initially recognized at fair value, and transaction costs are expensed in the statement of comprehensive income.

Financial Assets

a. Classification and subsequent measurement

i. Financial assets at fair value through profit or loss

Financial assets that are not measured at amortized cost or at fair value through other comprehensive income are recognized initially at fair value and subsequently measured at fair value with changes in fair value recognized in profit or loss.

ii. Financial assets at fair value through other comprehensive income

At initial recognition, the Company may make an irrevocable election to present in other comprehensive income subsequent changes in the fair value of an investment in an equity instrument that is not held for trading. When there is a disposal of such equity instrument, accumulated amounts presented in other comprehensive income are not subsequently transferred to profit or loss but are transferred directly to the retained earnings.

The debt instruments are measured at fair value through other comprehensive income if both of the following conditions are met:

- (i) the financial asset is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets and
- (ii) the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Subsequent changes in the fair value of such financial assets at fair value through other comprehensive income are recognized in other comprehensive income. Before derecognition, impairment gains or losses, interest revenue and foreign exchange gains and losses are recognized in profit or loss. When the financial assets are derecognized the cumulative gain or loss previously recognized in other comprehensive income is reclassified from other comprehensive income to profit or loss as a reclassification adjustment.

iii. Financial assets measured at amortized cost

The financial assets are measured at amortized cost (including cash and cash equivalent, notes, accounts and other receivables and other financial assets) if both of the following conditions are met.

- (i) the financial asset is held within a business model whose objective is to hold financial assets in order to collect contractual cash flows; and
- (ii) the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Subsequent to initial recognition for financial assets measured at amortized cost, interest income, measured by the effective interest method amortization process, and impairment losses are recognized during circulation period. Gains and losses are recognized in profit or loss when the financial assets are derecognized.

b. Derecognition of financial assets

A financial asset is derecognized when:

- i. the contractual rights to receive cash flows from the asset have expired;
- ii. the Company has transferred assets and substantially all the risks and rewards of the asset have been transferred; or
- iii. the Company has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

On derecognition of a financial asset in its entirety, the difference between the carrying amount and the consideration received or to be received including any cumulative gain or loss that had been recognized in other comprehensive income is recognized in profit or loss (for debt instruments) or directly in retained earnings (for equity instruments).

If the transferred asset is part of a larger financial asset and the part transferred qualifies for derecognition in its entirety, the Company allocates the previous carrying amount of the larger financial asset between the part that continues to be recognized and the part that is derecognized, based on the relative fair values of those parts on the date of the transfer. Any cumulative gain or loss that had been recognized in other comprehensive income is allocated between the part that continues to be recognized and the part that is derecognized, based on the relative fair values of those parts. The difference between the carrying amount allocated to the part derecognized and the sum of the consideration received for the part derecognized and any cumulative gain or loss allocated that had been recognized in other comprehensive income, is recognized in profit or loss or directly in retained earnings.

c. Impairment policy

The Company measures, at each reporting date, an allowance for expected credit losses (ECLs) for debt instrument investments measured at fair value through other comprehensive income and financial assets measured at amortized cost by assessing reasonable and supportable information including forward-looking information. Where the credit risk on a financial asset has not increased significantly since initial recognition, the loss allowance is measured at an amount equal to 12-month ECLs. Where the credit risk on a financial asset has increased significantly since initial recognition, the loss allowance is measured at an amount equal to the lifetime ECLs.

For notes, accounts receivable and contract assets, the Company applies a simplified approach in calculating ECLs. Therefore, the Company does not track changes in credit risk, but instead recognizes a loss allowance based on lifetime ECLs at each reporting date. ECLs are measured based on the Company's historical credit loss experience and customers' current financial condition, adjusted for forward-looking factors, such as customers' economic environment.

Financial Liabilities

a. Classification and subsequent measurement

The Company classifies the instrument issued as a financial liability or an equity instrument in accordance with the substance of the contractual arrangement and the definitions of a financial liability and an equity instrument.

i. Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss include financial liabilities held for trading and financial liabilities designated upon initial recognition as at fair value through profit or loss. Excluding changes in own credit risk, gains or losses on the subsequent measurement including interest paid are recognized in profit or loss.

ii. Financial liabilities measured at amortized cost

Financial liabilities measured at amortized cost include interest bearing loans and borrowings that are subsequently measured using the effective interest method after initial recognition. Gains and losses are recognized in profit or loss when the liabilities are derecognized as well as through the effective interest method amortization process.

Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or transaction costs.

b. Derecognition of financial liabilities

A financial liability is derecognized when the obligation under the liability is discharged, cancelled or expires.

When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified (whether or not attributable to the financial difficulty of the debtor), such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability, and the difference in the respective carrying amounts and the consideration paid, including any non-cash assets transferred or liabilities assumed, is recognized in profit or loss.

(8) Hedge Accounting

Cash flow hedges

The Company manages exposures arising from foreign currency exchange risk. With the adoption of IFRS 9, the Company designates a hedging relationship between the hedging instrument and the hedged item with the existence of an economic relationship and determines the hedge ratio to meet the hedge effectiveness. The Company designates certain hedging instruments to partially hedge the foreign currency exchange rate risks associated with certain highly probable forecast transactions. The separate component of equity associated with the hedged item is adjusted to the lower of the following (in absolute amounts):

- a. the cumulative gain or loss on the hedging instrument from inception of the hedge; and
- b. the cumulative change in fair value (present value) of the expected future cash flows on the hedged item from inception of the hedge.

The portion of the gain or loss on the hedging instrument that is determined to be an effective hedge is recognized in other comprehensive income, whereas the ineffective portion of the change in the fair value of the hedging instrument is recognized directly in profit or loss. If a hedge of a forecast transaction subsequently results in the recognition of a non-financial asset or a non-financial liability, the associated gains or losses that were recognized in other comprehensive income are included in the initial cost of the asset or liability.

The Company prospectively discontinues hedge accounting only when the hedging relationship ceases to meet the qualifying criteria; for instance when the hedging instrument expires or is sold, terminated or exercised.

(9) Inventories

Inventories are accounted for on a perpetual basis. Raw materials are stated at actual purchase costs, while the work in process and finished goods are stated at standard costs and subsequently adjusted to weighted-average costs at the end of each month. The cost of work in progress and finished goods comprises raw materials, direct labor, other direct costs and related production overheads. Allocation of fixed production overheads to the costs of conversion is based on the normal capacity of the production facilities. Cost associated with underutilized capacity is expensed as incurred. Inventories are valued at the lower of cost and net realizable value item by item. Net realizable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.

(10) Investments Accounted for Under the Equity Method

The Company's investments in subsidiaries and associates are accounted for using the equity method other than those that meet the criteria to be classified as non-current assets held for sale.

a. Investment in subsidiaries

A subsidiary is an entity over which the Company has control.

Any difference between the acquisition cost and the Company's share of the net fair value of the identifiable assets and liabilities of subsidiaries are accounted for as follows:

- i. Any excess of the acquisition cost over the Company's share of the net fair value of the identifiable assets and liabilities of a subsidiary at the date of acquisition is recognized as goodwill and is included in the carrying amount of the investment. Amortization of goodwill is not permitted.
- ii. Any excess of the Company's share of the net fair value of the identifiable assets and liabilities of a subsidiary over the acquisition cost, after reassessing the fair value, is recognized as a gain in profit or loss on the acquisition date.

Under the equity method, the investment in the subsidiary is carried on the balance sheet at cost plus post acquisition changes in the Company's share of profit or loss and other comprehensive income of the subsidiary. The Company's share of changes in subsidiaries' profit or loss and other comprehensive income is recognized directly in the Company's profit or loss and other comprehensive income. Distributions received from a subsidiary reduce the carrying amount of the investment.

Unrealized profits and losses due to sales from the Company to subsidiaries are eliminated in the Company's parent company only financial statements. The profits and losses due to the sales from subsidiaries to the Company or the sales between subsidiaries are recognized in the parent company only financial statements to the extent of the shares of interests which are not owned by the Company.

Financial statements of subsidiaries are prepared for the same reporting period as the Company. Where necessary, adjustments are made to bring the accounting policies in line with those of the Company.

When changes in the net assets of the subsidiary were not resulted from their profit or loss or other comprehensive income, and such changes do not affect the Company's ownership percentages, the Company recognizes its proportionate share of all related changes in equity. Changes in the Company's ownership interests in subsidiaries that do not result in the Company losing control over the subsidiaries are accounted for as equity transactions. Any difference between the carrying amount of investment in the subsidiary and the fair value of the consideration paid or received is recognized directly in equity.

The Company ceases to use the equity method upon loss of control and significant influence over the subsidiary. Any difference between the carrying amount of the investment in a subsidiary upon loss of control and the fair value of the retained investment plus proceeds from disposal will be recognized in profit or loss. If an investment in a subsidiary becomes an investment in an associate or a joint venture or an investment in an associate or a joint venture becomes an investment in a subsidiary, the Company continues to apply the equity method and remeasures the retained interest.

The Company determines at each reporting date whether there is any objective evidence that the investments in subsidiaries are impaired. An impairment loss, being the difference between the recoverable amount of the subsidiary and its carrying amount, is recognized in profit or loss in the statement of comprehensive income and forms part of the carrying amount of the investments.

b. Investment in associates

An associate is an entity over which the Company has significant influence and that is neither a subsidiary nor a joint venture. Significant influence is the power to participate in the financial and operating policy decisions of an entity, but is not control or joint control over those policies.

Any difference between the acquisition cost and the Company's share of the net fair value of the identifiable assets and liabilities of associates is accounted for as follows:

- i. Any excess of the acquisition cost over the Company's share of the net fair value of the identifiable assets and liabilities of an associate at the date of acquisition is recognized as goodwill and is included in the carrying amount of the investment. Amortization of goodwill is not permitted.
- ii. Any excess of the Company's share of the net fair value of the identifiable assets and liabilities of an associate over the acquisition cost, after reassessing the fair value, is recognized as a gain in profit or loss on the acquisition date.

Under the equity method, the investment in the associate is carried on the balance sheet at cost plus post acquisition changes in the Company's share of profit or loss and other comprehensive income of the associate. The Company's share of changes in associates' profit or loss and other comprehensive income is recognized directly in the Company's profit or loss and other comprehensive income. Distributions received from an associate reduce the carrying amount of the investment. Any unrealized gains and losses resulting from transactions between the Company and the associate are eliminated to the extent of the Company's interest in the associate.

Financial statements of associates are prepared for the same reporting period as the Company. Where necessary, adjustments are made to bring the accounting policies in line with those of the Company.

Upon an associate's issuance of new shares, if the Company takes up more shares than its original proportionate holding while maintaining its significant influence over that associate, such increase would be accounted for as an acquisition of an additional equity interest in the associate. Upon an associate's issuance of new shares, if the Company does not take up proportionate shares and reduces its stockholding percentage while maintaining its significant influence over that associate, a proportionate share of the gain or loss previously recognized in other comprehensive income is reclassified to profit or loss or other appropriate account(s). Any remaining difference will be charged to additional paid-in capital. When a change in equity of an associate does not result from its profit or loss or other comprehensive income, and such changes do not affect the Company's ownership percentage, the Company recognizes its proportionate share of all related changes in equity. Accordingly, upon disposal of the associate, the Company reclassifies the aforementioned additional paid-in capital to profit or loss on a pro rata basis.

The Company ceases to use the equity method upon loss of significant influence over an associate. Any difference between the carrying amount of the investment in an associate upon loss of significant influence and the fair value of the retained investment plus proceeds from disposal will be recognized in profit or loss. If an investment in an associate becomes an investment in a joint venture or an investment in a joint venture becomes an investment in an associate, the Company continues to apply the equity method and does not remeasure the retained interest.

The Company determines at each reporting date whether there is any objective evidence that the investments in associates and joint ventures are impaired. An impairment loss, being the difference between the recoverable amount of the associate or joint venture and its carrying amount, is recognized in profit or loss in the statement of comprehensive income and forms part of the carrying amount of the investments.

(11) Property, Plant and Equipment

Property, plant and equipment are stated at cost, net of accumulated depreciation and accumulated impairment losses, if any, and any borrowing costs incurred for long-term construction projects are capitalized if the recognition criteria are met. Significant renewals, improvements and major inspections meeting the recognition criteria are treated as capital expenditures, and the carrying amounts of those replaced parts are derecognized. Maintenance and repairs are recognized in expenses as incurred. Any gain or loss arising from derecognition of the assets is recognized in other operating income and expenses.

Depreciation is calculated on a straight-line basis over the estimated useful lives. A significant part of an item of property, plant and equipment which has a different useful life from the remainder of the item is depreciated separately.

The depreciation methods, useful lives and residual values for the assets are reviewed at each fiscal year end, and the changes from the previous estimation are recorded as changes in accounting estimates.

Except for land, which is not depreciated, the estimated useful lives of the assets are as follows:

Buildings	20~56 years
Machinery and equipment	6 years
Transportation equipment	6 years
Furniture and fixtures	6 years

- b. At the commencement date, the right-of-use assets should be measured at cost, which comprise of:
- i. the amount of the initial measurement of the lease liabilities;
 - ii. any lease payments made at or before the commencement date; and
 - iii. any initial direct costs incurred.

Subsequent to initial recognition, the right-of-use assets are measured using cost model. Right-of-use assets measured under the cost model are depreciated from the commencement date to the earlier of the end of the useful life of the right-of-use assets or the end of the lease terms. Any remeasurement of the lease liabilities results in a corresponding adjustment of the right-of-use assets.

The Company presents right-of-use assets and lease liabilities on the balance sheets, and depreciation expenses and interest expenses are separately presented in the statements of comprehensive income. The Company recognizes the lease payments associated with short-term leases and low-value asset leases as expenses on a straight-line basis over the lease terms.

(13) Intangible Assets

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is its fair value as at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and accumulated impairment losses, if any. Internally generated intangible assets which fail to meet the recognition criteria are not capitalized and the expenditures are reflected in profit or loss in the period incurred.

The useful lives of intangible assets are assessed as either finite or indefinite.

Intangible assets with finite useful lives are amortized over the useful lives and assessed for impairment whenever there is an indication that the intangible assets may be impaired. The amortization period and the amortization method for an intangible asset with a finite useful life are reviewed at least at the end of each fiscal year. Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset is accounted for by changing the amortization period or method, as appropriate, and is treated as changes in accounting estimates.

Intangible assets with indefinite useful lives are not amortized, but are tested for impairment annually, either individually or at the CGU level. The assessment of indefinite useful life is reviewed annually to determine whether the indefinite useful life continues to be supportable. If not, the change in useful life from indefinite to finite is made on a prospective basis.

(12) Lease

A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange of consideration, and to obtain substantially all economic benefits from use of the identified asset. The Company accounts for a lease contract as a single lease and separates the lease and non-lease components included in the contract.

The Company as a lessor

The Company recognizes lease payments from operating leases as rental income on a straight-line basis over the term of the lease.

The Company as a lessee

At the commencement date of a lease, a lessee is required to recognize right-of-use assets and lease liabilities, except for short-term leases and low-value asset leases.

a. At the commencement date, lease liabilities should be recognized and measured at the present value of the lease payments that have not been paid at that date, using the Company's incremental borrowing rate. The payments comprise:

- i. fixed payments less any lease incentives receivable;
- ii. variable lease payments that depend on an index or rate;
- iii. amounts expected to be payable by the Company under residual value guarantees;
- iv. the exercise price of a purchase option if the Company is reasonably certain to exercise; and
- v. payments for terminating the lease unless it is reasonably certain that early termination will not occur.

Lease liabilities are measured in subsequent periods using the effective interest method, and the interest expenses are recognized over the lease terms. In addition, the carrying amount of lease liabilities is remeasured if there is a modification which is not accounted as a separate lease, a change in the lease term, a change in the lease payments (e.g., changes to future payments resulting from a change in an index or rate used to determine such lease payments) or a change in the assessment of an option to purchase the underlying asset.

(15) Bonds

Convertible bonds

The Company evaluates the terms of the convertible bonds issued to determine whether it contains both a liability and an equity component. Furthermore, the Company assesses if the economic characteristics and risks of the put and call options embedded in the convertible bonds are closely related to the economic characteristics and risk of the host contract before separating the equity element.

For the liability component excluding the derivatives, its fair value is determined based on the effective interest rate applied at that time by the market to instruments of comparable credit status. The liability component is classified as a financial liability measured at amortized cost using the effective interest method before the instrument is converted or settled. For the embedded derivative that is not closely related to the host contract, it is classified as a liability component and subsequently measured at fair value through profit or loss unless it qualifies as an equity component. The equity component is recognized initially at the difference between the fair value of the compound financial instrument as a whole and the fair value of the liability component. Its carrying amount is not remeasured in the subsequent accounting periods. If the convertible bond issued does not have an equity component, it is accounted for as a hybrid instrument in accordance with the requirements under IFRS 9.

If the convertible bondholders exercise their conversion right before maturity, the Company shall adjust the carrying amount of the liability component. The adjusted carrying amount of the liability component at conversion and the carrying amount of equity component are credited to common stock and additional paid-in capital-premiums. No gain or loss is recognized upon bond conversion.

In addition, the liability component of convertible bonds is classified as a current liability if within 12 months the bondholders may exercise the put right. After the put right expires, the liability component of the convertible bonds should be reclassified as a non-current liability if it meets the definition of a non-current liability in all other respects.

(16) Post-Employment Benefits

Under defined contribution pension plans, the contribution payable to the plan in exchange for the service rendered by an employee during a period shall be recognized as an expense. The contribution payable, after deducting any amount already paid, is recognized as a liability.

Gains or losses arising from derecognition of an intangible asset are recognized in other operating income and expenses.

Accounting policies of the Company's intangible assets are summarized as follows:

- a. Software is amortized over the contract term or estimated useful life (3 years) on a straight-line basis.
- b. Patent and technology license fee: Upon signing of contract and obtaining the right to intellectual property, any portion attributable to non-cancellable and mutually agreed future fixed license fees for patent and technology is discounted, and recognized as an intangible asset and related liability. The cost of the intangible asset is not revalued once determined on initial recognition, and is amortized over the useful life (5~10 years) on a straight-line basis. Interest expenses from the related liability are recognized and calculated based on the effective interest method. Based on the timing of payments, the liability is classified as current and non-current.
- c. Others are mainly the intellectual property license fees, amortized over the shorter of the contract term or estimated useful life (3 years) of the related technology on a straight-line basis.

(14) Impairment of Non-Financial Assets

The Company assesses at each reporting date whether there is an indication that an asset in the scope of IAS 36 "Impairment of Assets" may be impaired. If any indication exists, the Company completes impairment testing for the CGU to which the individual assets belong. Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount. The recoverable amount of an individual asset or a CGU is the higher of its fair value less costs of disposal and its value in use. If circumstances indicate that previously recognized impairment losses may no longer exist or may have decreased at each reporting date, the Company re-assesses the asset's or CGU's recoverable amount. A previously recognized impairment loss is reversed only if there has been an increase in the estimated service potential of an asset which in turn increases the recoverable amount since the last impairment loss was recognized. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation or amortization, had no impairment loss been recognized for the asset in prior years.

The recognition or reversal of impairment losses is classified as other operating income and expenses.

Under defined benefit pension plans, the net defined benefit liability (asset) shall be recognized as the amount of the present value of the defined benefit obligation, deducting the fair value of any plan assets and adjusting for any effect of the asset ceiling. Service cost and net interest on the net defined benefit liability (asset) are recognized as expenses in the period of service. Remeasurement of the net defined benefit liability (asset), which comprises actuarial gains and losses, the return on plan assets and any change in the effect of the asset ceiling, excluding any amounts included in net interest, is recognized in other comprehensive income in the period in which they occur. Remeasurement recognized in other comprehensive income is reflected immediately in retained earnings and shall not be reclassified to profit or loss in a subsequent period.

(17) Government Grants

In accordance with IAS 20 "Accounting for Government Grants and Disclosure of Government Assistance", the Company recognizes the government grants when there is reasonable assurance that such grants will be received and the conditions attaching to them will be complied with.

An asset related government grant is recorded as deferred income and recognized in profit or loss on a straight-line basis over the useful lives of the assets. An expense related government grant is recognized in profit or loss on a systematic basis over the periods in which the Company recognizes as expenses the related costs for which the grant is intended to compensate. A government grant that compensates for expenses or losses already incurred or for the purpose of giving immediate financial support to the Company with no future related costs is recognized in profit or loss when it becomes receivable.

(18) Treasury Stock

The Company's own equity instruments repurchased (treasury stocks) are recognized at repurchase cost and deducted from equity. No gain or loss shall be recognized in profit or loss on the purchase, sale, issue or cancellation of the Company's own equity instruments. Any difference between the carrying amount and the consideration is recognized in equity.

(19) Share-Based Payment Transactions

Equity-settled share-based payment transactions

The compensation cost of equity-settled transactions between the Company and its employees is measured at the fair value of the equity instruments on the grant date, and is recognized as expense, together with a corresponding increase in equity, over the vesting period. When issuing restricted stocks for employees, the unvested restricted stocks issued on the grant date for employees are recognized in unearned employee compensation as a transitional contra equity account and such account shall be amortized as compensation expense over the vesting period. The cumulative expense recognized for equity-settled transactions at each reporting date until the vesting date reflects the extent to which the vesting period has passed and the Company's best estimate of the quantity of equity instruments that will ultimately vest. The movement in cumulative cost recognized at the beginning and end of the period is recognized through profit or loss for the period.

No expense is recognized for awards that do not ultimately vest, except for equity-settled transactions where vesting is conditional upon a market or non-vesting condition. The Company shall recognize the services received in expense irrespective of whether or not the market or non-vesting condition is satisfied, provided that all other performance and/or service conditions are satisfied.

Where the terms of an equity-settled transaction award are modified, the minimum expense recognized is the expense as if the terms had not been modified, if the original terms of the award are met. An additional expense is recognized for any modification that increases the total fair value of the share-based payment transaction, or is otherwise beneficial to the employee as measured at the date of modification.

Where an equity-settled award is cancelled, it is treated as if it fully vests on the date of cancellation, and any expense not yet recognized for the award is recognized immediately. This includes any award where non-vesting conditions within the control of either the entity or the employee are not met. However, if a new award substitutes for the cancelled award and is designated as a replacement award on the date that it is granted, the cancelled and new awards are treated as if they were a modification of the original award.

Cash-settled share-based payment transactions

The compensation cost of cash-settled share-based payment transactions between the Company and its employees is measured at the fair value of the liability incurred and recognized as expense with corresponding liability over the vesting period. The fair value of the liability is remeasured at the end of each reporting period and at the settlement date with the movement in fair value recognized through profit or loss for the period until the liability is settled.

(20) Revenue RecognitionRevenue from Contracts with Customers

The Company recognizes revenue from contracts with customers by applying the following steps of IFRS 15 "Revenue from Contracts with Customers":

- a. identify the contract with a customer;
- b. identify the performance obligations in the contract;
- c. determine the transaction price;
- d. allocate the transaction price to the performance obligations in the contract; and
- e. recognize revenue when (or as) the entity satisfies its performance obligations

Revenues on the Company's contracts with customers for the sales of wafers and joint technology development are recognized as the Company satisfies its performance obligations to customers upon transfer of control of promised goods and services. The Company recognizes revenue at transaction price that are determined using contractual prices reduced by sales returns and allowances which the Company estimates based on historical experience having determined that a significant reversal in the amount of cumulative revenue recognized are not probable to occur. The Company recognizes refund liabilities for estimated sales return and allowances based on the customer complaints, historical experience, and other known factors.

The Company recognizes accounts receivable when the Company transfers control of the goods or services to customers and has a right to an amount of consideration that is unconditional. Such accounts receivable are short term and do not contain a significant financing component. For certain contracts that do not provide the Company unconditional rights to the consideration, and the transfer of control of the goods or services has been satisfied, the Company recognizes contract assets and revenues.

Consideration received from customers prior to the Company having satisfied its performance obligations are accounted for as contract liabilities which are transferred to revenue after the performance obligations are satisfied. The Company recognizes costs to fulfill a contract when the costs relate directly to the contract, generate or enhance resources to be used to satisfy performance obligations in the future, and are expected to be recovered. The costs and revenues are recognized when the Company satisfies its performance obligations to customers upon transfer of control of promised goods and services.

Interest income

For financial assets measured at amortized cost and financial assets at fair value through other comprehensive income, interest income is recorded using the effective interest method and recognized in profit or loss.

Dividends

Revenue is recognized when the Company's right to receive the dividends is established, which is generally when stockholders approve the dividend.

(21) Income Tax

Income tax expense (benefit) is the aggregate amount of current income tax and deferred income tax included in the determination of profit or loss for the period.

Current income tax

Current income tax assets and liabilities for the current period and prior periods are measured using the tax rates and tax laws that have been enacted or substantively enacted by the end of the reporting period. Current income tax relating to items recognized directly in other comprehensive income or equity is recognized in other comprehensive income or equity rather than profit or loss.

The additional income tax for undistributed earnings is recognized as income tax expense in the subsequent year when the distribution proposal is approved by the stockholders' meeting.

Deferred income tax

Deferred income tax is determined using the liability method on temporary differences between the tax bases of assets and liabilities and their carrying amounts in financial statements at the reporting date.

Deferred tax liabilities are recognized for all taxable temporary differences, except:

- a. When the deferred tax liability arises from the initial recognition of goodwill or of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss;
- b. In respect of taxable temporary differences associated with investments in subsidiaries, associates and joint ventures, when the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

Deferred tax assets are recognized for all deductible temporary differences, the carryforward of unused tax losses and unused tax credits, to the extent that it is probable that future taxable profit will be available against which the deductible temporary differences and the carryforward of unused tax losses and unused tax credits can be utilized, except:

- a. Where the deferred tax asset relating to the deductible temporary difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss;
- b. In respect of deductible temporary differences associated with investments in subsidiaries, associates and joint ventures, deferred tax assets are recognized only to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilized.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates and tax laws that have been enacted or substantively enacted at the reporting date. The measurement of deferred tax assets and liabilities reflects the tax consequences that would follow the manner in which the Company expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities. Deferred tax relating to items recognized outside profit or loss is not recognized in profit or loss but rather in other comprehensive income or directly in equity. Deferred tax assets are reassessed and recognized at each reporting date. Unrecognized deferred tax assets are reassessed at each reporting date and are recognized to the extent that it has become probable that future taxable profits will allow the deferred tax assets to be recovered.

Deferred tax assets and liabilities offset each other, if a legally enforceable right exists to set off current income tax assets against current income tax liabilities, and the deferred taxes relate to the same taxable entity and the same taxation authority.

Tax benefits acquired as part of a business combination, but not satisfying the criteria for separate recognition at the acquisition date, might be realized and recognized subsequently as follows:

- a. Acquired deferred tax benefits recognized within the measurement period that result from new information about facts and circumstances that existed at the acquisition date shall be applied to reduce the carrying amount of any goodwill related to that acquisition. If the carrying amount of that goodwill is nil, any remaining deferred tax benefits shall be recognized in profit or loss;
- b. All other acquired deferred tax benefits realized shall be recognized in profit or loss, other comprehensive income or equity.

The Company has considered whether it is probable that a taxation authority will accept the uncertain tax treatments used in its income tax filings. If the Company concludes that it is probable that the taxation authority will accept an uncertain tax treatment, the Company determines the taxable profit, tax bases, unused tax losses, unused tax credits or tax rates consistently with the tax treatments used or planned to be used in its income tax filings. If it is not probable that the taxation authority will accept an uncertain tax treatment, the Company makes estimates using either the most likely amount or the expected value of the tax treatment, depending on which method the Company expects to better predict the resolution of the uncertainty. The Company reassesses a judgement or estimate if the facts and circumstance change.

(22) Earnings per Share

Earnings per share is computed according to IAS 33, "Earnings per Share". Basic earnings per share is computed by dividing net income by the weighted-average number of ordinary shares outstanding during the current reporting period. Diluted earnings per share is computed by taking basic earnings per share into consideration plus additional ordinary shares that would have been outstanding if the dilutive share equivalents had been issued. Net income is also adjusted for interest and other income or expenses derived from any underlying dilutive share equivalents. The weighted-average of outstanding shares is adjusted retroactively for stock dividends and employee stock compensation issues.

5. SIGNIFICANT ACCOUNTING JUDGMENTS, ESTIMATES AND ASSUMPTIONS

The preparation of the Company's parent company only financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets, liabilities, the accompanying disclosures and the disclosure of contingent liabilities. However, uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

The key assumptions concerning the future and other key sources of estimating uncertainty at the reporting date that would have a significant risk for a material adjustment to the carrying amounts of assets or liabilities within the next fiscal year are discussed below.

The Company bases its assumptions and estimates on information available when the parent company only financial statements were prepared. Existing circumstances and assumptions about future developments, however, may change due to market changes or circumstances arising beyond the control of the Company. Such changes are reflected in the assumptions when they occur. Given the global economic climate and unforeseen effects from COVID-19 pandemic, the process of estimation has become more challenging. Actual results could differ from those estimates, and as such, differences may be material to the consolidated financial statements.

(1) The Fair Value of Level 3 Financial Instruments

Where the fair values of the level 3 financial assets recorded on the balance sheet cannot be derived from active markets, they are determined by the application of an appropriate valuation method which was mainly the market approach. The valuation of these financial assets involves significant judgments such as the selection of comparable companies or equity transaction prices and the application of assumptions such as discounts for lack of marketability, valuation multiples, etc. Changes in assumptions about these factors could affect the reported fair value of the financial assets. Please refer to Note 12 for more details.

(2) Inventories

Inventories are valued at the lower of cost and net realizable value item by item. Net realizable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale. Please refer to Note 6(4). Costs of completion include direct labor and overhead, including depreciation and maintenance of production equipment, indirect labor costs, indirect material costs, supplies, utilities and royalties that is expected to be incurred at normal production level. The Company estimates normal production level taking into account loss of capacity resulting from planned maintenance, based on historical experience and current production capacity.

(3) Post-Employment Benefits

Defined benefit costs and the present value of the defined benefit obligation for a pension plan are determined using the projected unit credit method. An actuarial valuation involves making various assumptions, which include the determination of the discount rate, future salary increase rate, mortality rate, etc., and may differ from actual developments in the future. In determining the appropriate discount rate, management considers the interest rates of the government bonds extrapolated from maturity corresponding to the expected duration of the defined benefit obligation. As for the rate of future salary increase, management takes account of past experiences, comparisons within the industry and the geographical region, inflation and the discount rate. Due to the complexity of the actuarial valuation and its long-term nature, a defined benefit obligation is highly sensitive to changes in these assumptions. The assumptions used are disclosed in Note 6(15).

(4) Impairment of Property, Plant and Equipment

At each reporting date or whenever events indicate that the asset's value has declined or significant changes in the market with an adverse effect have taken place, the Company assesses whether there is an indication that an asset in the scope of IAS 36 may be impaired. If any indication exists, the Company completes impairment testing for the CGU to which the individual assets belong. Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount. The recoverable amount of an individual asset or CGU is the higher of fair value less costs of disposal and its value in use. The fair value less costs of disposal is based on best information available to reflect the amount that an entity could obtain from the disposal of the asset in an orderly transaction between market participants, after deducting the costs of disposal. The value in use is measured at the net present value of the future cash flows the entity expects to derive from the asset or CGU. Cash flow projection involves subjective judgments and estimates which include the estimated useful lives of property, plant and equipment, capacity that generates future cash flows, capacity of physical output, potential fluctuations of economic cycle in the industry and the Company's operating situation.

(5) Income Tax

Uncertainties exist with respect to the interpretation of complex tax regulations, changes in tax laws, and the amount and timing of future taxable income. The Company establishes provisions, based on reasonable estimates, for possible consequences of audits by the tax authority. The amount of such provisions is based on various factors, such as experience of previous tax audits and different interpretations of tax regulations made by the responsible tax authority.

Deferred tax assets are recognized for all carryforward of unused tax losses, tax credits and deductible temporary differences to the extent that it is probable that future taxable profit will be available or there are sufficient taxable temporary differences against which the unused tax losses, unused tax credits or deductible temporary differences can be utilized. The amount of deferred tax assets determined to be recognized is based upon the likely timing and the level of future taxable profits and taxable temporary differences. Please refer to Note 6(25) for more details on unrecognized deferred tax assets.

6. CONTENTS OF SIGNIFICANT ACCOUNTS

(1) Cash and Cash Equivalents

	As of December 31,	
	2020	2019
Cash on hand and petty cash	\$4,751	\$4,733
Checking and savings accounts	4,321,850	5,688,872
Time deposits	59,450,637	52,922,953
Repurchase agreements collateralized by government bonds and corporate notes	5,272,658	7,918,278
Total	\$69,049,896	\$66,534,836

(2) Financial Assets at Fair Value through Profit or Loss

	As of December 31,	
	2020	2019
Financial assets mandatorily measured at fair value through profit or loss		
Common stocks	\$5,583,598	\$4,909,603
Preferred stocks	20,000	20,125
Funds	360,460	184,500
Forward contracts	2,384	-
Total	\$5,966,442	\$5,114,228
Current	\$1,051,718	\$668,476
Noncurrent	4,914,724	4,445,752
Total	\$5,966,442	\$5,114,228

(3) Accounts Receivable, Net

	As of December 31,	
	2020	2019
Accounts receivable	\$14,850,120	\$13,563,695
Less: loss allowance	(187,602)	(663,686)
Net	\$14,662,518	\$12,900,009

Aging analysis of accounts receivable:

	As of December 31,	
	2020	2019
Neither past due	\$12,239,586	\$10,231,451
Past due:		
≤ 30 days	1,947,803	1,757,352
31 to 60 days	50,226	129,322
61 to 90 days	7,165	84,043
91 to 120 days	12,045	95,137
≥ 121 days	593,295	1,266,390
Subtotal	2,610,534	3,332,244
Total	\$14,850,120	\$13,563,695

Movement of loss allowance for accounts receivable:

	For the years ended December 31,	
	2020	2019
Beginning balance	\$663,686	\$-
Net recognize (reversal) for the period	(476,084)	663,686
Ending balance	\$187,602	\$663,686

The collection periods for third party domestic sales and third party overseas sales were month-end 30-60 days and net 30-60 days, respectively.

An impairment analysis is performed at each reporting date to measure expected credit losses (ECLs) of accounts receivable. For the receivables past due within 60 days, including not past due, the Company estimates a expected credit loss rate to calculate ECLs. For the years ended December 31, 2020 and 2019, the expected credit loss rates are not greater than 0.2%. The rate is determined based on the Company's historical credit loss experience and customer's current financial condition, adjusted for forward-looking factors such as customer's economic environment. For the receivables past due over 60 days, the Company applies the aforementioned rate and assesses individually whether to recognize additional expected credit losses by considering customer's operating condition and debt-paying ability.

(4) Inventories, Net

	As of December 31,	
	2020	2019
Raw materials	\$4,657,153	\$4,414,620
Supplies and spare parts	2,551,677	2,061,059
Work in process	9,173,522	8,791,223
Finished goods	455,910	1,038,210
Total	\$16,838,262	\$16,305,112

a. For the years ended December 31, 2020 and 2019, the Company recognized NT\$93,109 million and NT\$93,322 million, respectively, in operating cost, of which NT\$439 million was related to reversal of write-down of inventories and NT\$1,174 million was related to write-down of inventories.

b. None of the aforementioned inventories were pledged.

(5) Financial Assets at Fair Value through Other Comprehensive Income, Non-Current

	As of December 31,	
	2020	2019
Equity instruments		
Common stocks	\$9,780,494	\$14,213,103
Preferred stocks	170,145	175,494
Total	<u>\$9,950,639</u>	<u>\$14,388,597</u>

a. These investments in equity instruments are held for medium to long-term purposes and therefore are accounted for as fair value through other comprehensive income.

b. Dividend income recognized in profit or loss from equity instruments designated as fair value through other comprehensive income were listed below:

	For the years ended December 31,	
	2020	2019
Held at end of period	\$255,295	\$339,327
Derecognized during the period	-	-
Total	<u>\$255,295</u>	<u>\$339,327</u>

c. In consideration of the Company's investment strategy, the Company disposed and derecognized certain investments designated as fair value through other comprehensive income. Details on derecognition of such investments for the years ended December 31, 2020 and 2019 were as follows:

	For the years ended December 31,	
	2020	2019
Fair value on the date of disposal	\$9,012,450	\$2,348,454
Cumulative gains (losses) reclassified to retained earnings due to derecognition	<u>\$1,825,365</u>	<u>\$(551,903)</u>

Please refer to Note 6(f) for details on cumulative gains (losses) reclassified to retained earnings due to derecognition.

(6) Investments Accounted for Under the Equity Method

a. Details of investments accounted for under the equity method is as follows:

	As of December 31,		Percentage of ownership or voting rights	Percentage of ownership or voting rights
	2020	2019		
<u>Listed companies</u>	Amount	Amount		
<u>Investee companies</u>				
<u>Investments in associates</u>				
FARADAY TECHNOLOGY CORP. (FARADAY) (Note A)	\$1,589,448	\$1,470,499	13.78	13.78
UNIMICRON TECHNOLOGY CORP. (UNIMICRON) (Note B)	9,107,377	-	13.36	-
Subtotal	<u>10,696,825</u>	<u>1,470,499</u>		
<u>Unlisted companies</u>				
<u>Investments in subsidiaries</u>				
UMC GROUP (USA)	1,722,181	1,755,033	100.00	100.00
UNITED MICROELECTRONICS (EUROPE) B.V.	135,624	142,378	100.00	100.00
UMC CAPITAL CORP.	4,087,620	3,756,049	100.00	100.00
GREEN EARTH LIMITED	10,166,702	11,643,953	100.00	100.00
TLC CAPITAL CO., LTD.	4,566,933	4,273,912	100.00	100.00
UMC INVESTMENT (SAMOA) LIMITED	39,961	42,022	100.00	100.00
FORTUNE VENTURE CAPITAL CORP. (FORTUNE) (Note C)	5,400,821	4,398,331	100.00	100.00
UMC GROUP JAPAN (Note D)	-	95,116	-	100.00
UMC KOREA CO., LTD.	21,834	20,499	100.00	100.00
OMNI GLOBAL LIMITED	585,317	590,702	100.00	100.00
SINO PARAGON LIMITED	142,353	121,840	100.00	100.00
BEST ELITE INTERNATIONAL LIMITED	22,926,322	23,183,005	100.00	100.00
UNITED SEMICONDUCTOR JAPAN CO., LTD. (USJC) (Note D, E)	17,668,765	17,515,233	100.00	100.00
WAVETEK MICROELECTRONICS CORPORATION	374,434	260,035	80.75	79.83
NEXPOWER TECHNOLOGY CORP. (Note F)	-	-	-	47.75
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD. (Note G)	145,913	87,327	-	-
Subtotal	<u>67,984,780</u>	<u>67,885,435</u>		
<u>Investments in associates</u>				
MITIC HOLDINGS PTE. LTD.	26,966	18,157	45.44	45.44
UNITECH CAPITAL INC.	823,185	642,660	42.00	42.00
TRIKNIGHT CAPITAL CORPORATION	2,488,169	2,281,631	40.00	40.00
HSUN CHIEH INVESTMENT CO., LTD.	10,165,563	4,378,193	36.49	36.49
YANN YUAN INVESTMENT CO., LTD.	6,551,136	3,829,934	30.87	30.87
Subtotal	<u>20,055,019</u>	<u>11,150,575</u>		
Total	<u>\$98,736,624</u>	<u>\$80,506,509</u>		

Note A: Beginning from June 2015, the Company accounts for its investment in FARADAY as an associate given the fact that the Company obtained the ability to exercise significant influence over FARADAY through representation on its Board of Directors.

Note B: Beginning from June 2020, the Company accounts for its investment in UNIMICRON as an associate given the fact that the Company obtained the ability to exercise significant influence over UNIMICRON through representation on its Board of Directors. UNIMICRON was previously measured at fair value through other comprehensive income and reclassified as investments accounted for under the equity method. Cumulative fair value changes that was previously recognized in other comprehensive income up to reclassification date was reclassified to retained earnings in the current period.

Note C: As of December 31, 2020 and 2019, the costs of investment were NT\$5,521 million and NT\$4,518 million, respectively. After deducting the Company's stock held by the subsidiary (treated as treasury stock by the Company) of NT\$120 million, the residual book values totalled NT\$5,401 million and NT\$4,398 million as of December 31, 2020 and 2019, respectively.

Note D: As of November 1, 2020, UMC GROUP JAPAN was merged with USJC and USJC is the surviving company.

Note E: The Company exercised the call option of a joint venture agreement between FUJI SEMICONDUCTOR LIMITED (FSL) to acquired 84.1% ownership interest in MIE FUJITSU SEMICONDUCTOR LIMITED (MIFS) for JPY 54.4 billion on October 1, 2019. The Company previously held 15.9% of ownership interest in MIFS. MIFS became a wholly-owned subsidiary of the Company and was renamed as UNITED SEMICONDUCTOR JAPAN CO., LTD. (USJC) upon completion of the acquisition. The fair value of the net identifiable assets acquired and liabilities assumed was in excess of the aggregate consideration transferred and the previously held ownership interest of 15.9% in USJC at the acquisition date, and the difference was recognized as bargain purchase gain. Recognition of the bargain purchase gain resulted from the previously held ownership interest of 15.9% in USJC which was remeasured at fair value with the consideration of minority interest discount immediately at the acquisition date.

Note F: NEXPOWER TECHNOLOGY CORP. was dissolved and liquidated on November 11, 2020.

Note G: Please refer to Note 9(4).

The carrying amount of investments accounted for using the equity method for which there are published price quotations amounted to NT\$10,697 million and NT\$1,470 million, as of December 31, 2020 and 2019, respectively. The fair value of these investments were NT\$18,885 million and NT\$1,928 million, as of December 31, 2020 and 2019, respectively.

Certain investments accounted for under the equity method were audited by other independent accountants. Shares of profit or loss of these subsidiaries, associates and joint ventures amounted to NT\$6,643 million and NT\$1,174 million for the years ended December 31, 2020 and 2019, respectively. Share of other comprehensive income (loss) of these subsidiaries, associates and joint ventures amounted to NT\$2,714 million and NT\$1,189 million for the years ended December 31, 2020 and 2019, respectively. The balances of investments accounted for under the equity method were NT\$29,135 million and NT\$11,132 million as of December 31, 2020 and 2019, respectively.

Although the Company is the largest shareholder of some associates; after comprehensive assessment, the Company does not own the major voting rights as the remaining voting rights holders are able to align and prevent the Company from ruling the relevant operation. Therefore, the Company does not control but owns significant influence over the aforementioned associates.

None of the aforementioned investments accounted for using the equity method were pledged.

b. Financial information of associates:

There is no individually significant associate for the Company. When an associate is a foreign operation, and the functional currency of the foreign entity is different from the Company, an exchange difference arising from translation of the foreign entity will be recognized in other comprehensive income (loss). Such exchange differences recognized in other comprehensive income (loss) in the financial statements for the years ended December 31, 2020 and 2019 were NT\$(44) million and NT\$(19) million, respectively, which were not included in the following table.

The aggregate amount of the Company's share of all its individually immaterial associates that are accounted for using the equity method is as follows:

	For the years ended December 31,	
	2020	2019
Income (loss) from continuing operations	\$6,653,624	\$1,134,570
Other comprehensive income (loss)	2,912,770	1,264,480
Total comprehensive income (loss)	\$9,566,394	\$2,399,050

c. One of the Company's associates, HSUN CHIEH INVESTMENT CO., LTD., held 441 million shares of the Company's stock as of December 31, 2020 and 2019, respectively. Another associate, YANN YUAN INVESTMENT CO., LTD., held 201 million shares and 200 million shares of the Company's stock as of December 31, 2020 and 2019, respectively.

(7) Other current assets

	As of December 31,	
	2020	2019
Time deposits with original maturities of over three months to a year	\$13,043,995	\$804,933
Costs to fulfill a contract	439,405	424,747
Others	71,566	-
Total	\$13,554,966	\$1,229,680

(8) Property, Plant and Equipment

2020

a. Assets Used by the Company:

Cost:

	Land	Buildings	Machinery and equipment	Transportation equipment	Furniture and fixtures	Construction in progress and equipment awaiting inspection	Total
As of January 1, 2020	\$861,487	\$25,585,702	\$754,792,029	\$48,060	\$5,694,787	\$3,353,190	\$790,335,255
Additions	-	-	-	-	-	15,151,893	15,151,893
Disposals	-	-	(4,150,613)	(4,216)	(14,666)	(12,938)	(4,182,433)
Transfers and reclassifications	-	36,558	11,883,684	-	159,338	(11,104,442)	975,138
Exchange effect	-	(134,356)	(7,621,867)	(304)	(19,656)	(32,495)	(7,808,678)
As of December 31, 2020	\$861,487	\$25,487,904	\$754,903,233	\$43,540	\$5,819,803	\$7,355,208	\$794,471,175

Accumulated Depreciation and Impairment:

	Land	Buildings	Machinery and equipment	Transportation equipment	Furniture and fixtures	Construction in progress and equipment awaiting inspection	Total
As of January 1, 2020	\$-	\$16,289,905	\$691,756,590	\$34,964	\$4,741,097	\$-	\$712,822,556
Depreciation	-	968,854	26,575,178	3,723	357,351	-	27,905,106
Disposals	-	-	(3,853,955)	(3,772)	(14,666)	-	(3,872,393)
Transfers and reclassifications	-	-	1,377	-	-	-	1,377
Exchange effect	-	(76,975)	(7,091,918)	(90)	(17,901)	-	(7,186,884)
As of December 31, 2020	\$-	\$17,181,784	\$707,387,272	\$34,825	\$5,065,881	\$-	\$729,669,762

Net carrying amount:

As of December 31, 2020	\$861,487	\$8,306,120	\$47,515,961	\$8,715	\$753,922	\$7,355,208	\$64,801,413
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b. Assets Subject to Operating Leases:

Cost:

	Land	Buildings	Machinery and equipment	Furniture and fixtures	Total
As of January 1, 2020	\$452,915	\$2,311,235	\$125,413	\$1,152,248	\$4,041,811
Exchange effect	-	(8,490)	-	(1,785)	(10,275)
As of December 31, 2020	\$452,915	\$2,302,745	\$125,413	\$1,150,463	\$4,031,536

Accumulated Depreciation and Impairment:

	Land	Buildings	Machinery and equipment	Furniture and fixtures	Total
As of January 1, 2020	\$-	\$905,738	\$125,413	\$1,036,914	\$2,068,065
Depreciation	-	89,149	1,377	42,077	132,603
Transfers and reclassifications	-	-	(1,377)	-	(1,377)
Exchange effect	-	(4,921)	-	(1,693)	(6,614)
As of December 31, 2020	\$-	\$989,966	\$125,413	\$1,077,298	\$2,192,677

Net carrying amount:

As of December 31, 2020	\$452,915	\$1,312,779	\$-	\$73,165	\$1,838,859
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2019

a. Assets Used by the Company:

Cost:

	Land	Buildings	Machinery and equipment	Transportation equipment	Furniture and fixtures	Construction in progress and equipment awaiting inspection	Total
As of January 1, 2019	\$861,487	\$25,612,212	\$749,666,853	\$46,906	\$5,503,934	\$4,272,819	\$785,964,211
Additions	-	-	-	-	-	9,557,500	9,557,500
Disposals	-	(4,637)	(2,736,247)	(2,327)	(12,776)	(67,457)	(2,823,444)
Transfers and reclassifications	-	30,577	10,900,865	3,557	211,284	(10,388,204)	758,079
Exchange effect	-	(52,450)	(3,039,442)	(76)	(7,655)	(21,468)	(3,121,091)
As of December 31, 2019	\$861,487	\$25,585,702	\$754,792,029	\$48,060	\$5,694,787	\$3,353,190	\$790,335,255

Accumulated Depreciation and Impairment:

	Land	Buildings	Machinery and equipment	Transportation equipment	Furniture and fixtures	Construction in progress and equipment awaiting inspection	Total
As of January 1, 2019	\$-	\$15,333,123	\$667,193,746	\$32,946	\$4,411,439	\$-	\$686,971,254
Depreciation	-	990,980	29,858,993	4,320	349,215	-	31,203,508
Disposals	-	(4,624)	(2,557,838)	(2,327)	(12,703)	-	(2,577,512)
Transfers and reclassifications	-	-	67,295	-	(10)	-	67,285
Exchange effect	-	(29,574)	(2,805,586)	25	(6,844)	-	(2,841,979)
As of December 31, 2019	\$-	\$16,289,905	\$691,756,590	\$34,964	\$4,741,097	\$-	\$712,822,556
Net carrying amount:	\$861,487	\$9,295,797	\$63,035,439	\$13,096	\$953,690	\$3,353,190	\$771,512,699

b. Assets Subject to Operating Leases:

Cost:

	Land	Buildings	Machinery and equipment	Furniture and fixtures	Total
As of January 1, 2019	\$452,915	\$2,316,123	\$207,285	\$1,150,260	\$4,126,583
Disposals	-	(623)	-	(317)	(940)
Transfers and reclassifications	-	-	(81,872)	3,213	(78,659)
Exchange effect	-	(4,265)	-	(908)	(5,173)
As of December 31, 2019	\$452,915	\$2,311,235	\$125,413	\$1,152,248	\$4,041,811

Accumulated Depreciation and Impairment:

	Land	Buildings	Machinery and equipment	Furniture and fixtures	Total
As of January 1, 2019	\$-	\$819,016	\$188,881	\$995,916	\$2,003,813
Depreciation	-	89,485	3,827	42,155	135,467
Disposals	-	(334)	-	(317)	(651)
Transfers and reclassifications	-	-	(67,295)	10	(67,285)
Exchange effect	-	(2,429)	-	(850)	(3,279)
As of December 31, 2019	\$-	\$905,738	\$125,413	\$1,036,914	\$2,068,065
Net carrying amount:	\$452,915	\$1,405,497	\$-	\$115,334	\$1,973,746

Property, plant and equipment were not pledged as collateral.

(9) Leases

The Company leases various properties, such as land, buildings, machinery and equipment, transportation equipment and other equipment with lease terms of 2 to 30 years. Most lease contracts of land located in R.O.C state that lease payments will be adjusted based on the announced land value. The Company does not have purchase options of leased land at the end of the lease terms.

a. The Company as a lessee

(a) Right-of-use Assets

	As of December 31,	
	2020	2019
Land	\$2,527,227	\$2,905,908
Buildings	16,970	24,925
Machinery and equipment	269,003	314,207
Transportation equipment	4,747	9,509
Other equipment	5,262	7,450
Net	\$2,823,209	\$3,261,999

Depreciation	For the years ended December 31,	
	2020	2019
Land	\$233,761	\$257,198
Buildings	8,400	8,308
Machinery and equipment	42,558	19,385
Transportation equipment	6,127	4,907
Other equipment	2,186	2,193
Total	\$293,032	\$291,991

i. For the years ended December 31, 2020 and 2019, the Company's addition to right-of-use assets amounted to NT\$55 million and NT\$204 million, respectively.

ii. Right-of-use assets were not pledged as collateral.

(b) Lease Liabilities

	As of December 31,	
	2020	2019
Current	\$244,751	\$248,788
Noncurrent	2,586,813	2,988,314
Total	\$2,831,564	\$3,237,102

Please refer to Note (6(23)) for the interest expenses on the lease liabilities.

b. The Company as a lessor

The Company entered into leases on certain property, plant and equipment which are classified as operating leases as they did not transfer substantially all of the risks and rewards incidental to ownership of the underlying assets. The main contracts are to lease the dormitory to the employees with cancellation clauses. Please refer to Note 6(8) for relevant disclosure of property, plant and equipment for operating leases.

(10) Intangible Assets

	Cost:			
	Software	Patents and technology license fees	Others	Total
As of January 1, 2020	\$1,840,477	\$4,424,176	\$3,402,882	\$9,667,535
Additions	1,110,556	170,061	850,655	2,131,272
Disposals	(155,589)	-	(915,703)	(1,071,292)
Reclassifications	(15,210)	-	-	(15,210)
Exchange effect	(1,907)	(54,507)	-	(56,414)
As of December 31, 2020	\$2,778,327	\$4,539,730	\$3,337,834	\$10,655,891

Accumulated Amortization and Impairment:

	Patents and technology			
	Software	license fees	Others	Total
As of January 1, 2020	\$583,003	\$2,385,592	\$2,616,114	\$5,584,709
Amortization	794,547	483,494	730,192	2,008,233
Disposals	(155,589)	-	(915,703)	(1,071,292)
Exchange effect	(878)	(32,254)	-	(33,132)
As of December 31, 2020	\$1,221,083	\$2,836,832	\$2,430,603	\$6,488,518
Net carrying amount:	\$1,557,244	\$1,702,898	\$907,231	\$4,167,373

(12) Financial Liabilities at Fair Value through Profit or Loss, Current

	As of December 31,	
	2020	2019
Forward contracts	\$2,326	\$-
(13) <u>Bonds Payable</u>		
	As of December 31,	
	2020	2019
Unsecured domestic bonds payable	\$18,700,000	\$21,200,000
Unsecured convertible bonds payable	-	17,729,293
Less: Discounts on bonds payable	(9,616)	(147,877)
Total	18,690,384	38,781,416
Less: Current portion	(1,999,910)	(20,093,825)
Net	\$16,690,474	\$18,687,591

a. The Company issued domestic unsecured corporate bonds. The terms and conditions of the bonds are as follows:

Term	Issuance date	Issued amount	Coupon rate	Repayment
Seven-year	In mid-March 2013	NT\$2,500 million	1.50%	Interest was paid annually and the principal was fully repaid in March 2020.
Seven-year	In mid-June 2014	NT\$2,000 million	1.70%	Interest will be paid annually and the principal will be repayable in June 2021 upon maturity.
Ten-year	In mid-June 2014	NT\$3,000 million	1.95%	Interest will be paid annually and the principal will be repayable in June 2024 upon maturity.
Five-year	In late March 2017	NT\$6,200 million	1.15%	Interest will be paid annually and the principal will be repayable in March 2022 upon maturity.
Seven-year	In late March 2017	NT\$2,100 million	1.43%	Interest will be paid annually and the principal will be repayable in March 2024 upon maturity.
Five-year	In early October 2017	NT\$2,000 million	0.94%	Interest will be paid annually and the principal will be repayable in October 2022 upon maturity.
Seven-year	In early October 2017	NT\$3,400 million	1.13%	Interest will be paid annually and the principal will be repayable in October 2024 upon maturity.

2019

Cost:

	Software	Patents and technology license fees	Others	Total
As of January 1, 2019	\$688,271	\$4,589,136	\$3,190,018	\$8,467,425
Additions	1,335,824	806,915	851,679	2,994,418
Disposals	(218,859)	(953,128)	(638,815)	(1,810,802)
Reclassifications	36,210	-	-	36,210
Exchange effect	(969)	(18,747)	-	(19,716)
As of December 31, 2019	\$1,840,477	\$4,424,176	\$3,402,882	\$9,667,535

Accumulated Amortization and Impairment:

	Software	Patents and technology license fees	Others	Total
As of January 1, 2019	\$337,609	\$2,838,058	\$2,405,599	\$5,581,266
Amortization	464,928	510,020	849,330	1,824,278
Disposals	(218,859)	(953,128)	(638,815)	(1,810,802)
Exchange effect	(675)	(9,358)	-	(10,033)
As of December 31, 2019	\$583,003	\$2,385,592	\$2,616,114	\$5,584,709
Net carrying amount:	\$1,257,474	\$2,038,584	\$786,768	\$4,082,826
As of December 31, 2019				

The amortization amounts of intangible assets is as follows:

	For the years ended December 31,	
	2020	2019
Operating costs	\$634,202	\$664,315
Operating expenses	\$1,374,031	\$1,159,963

(11) Short-Term Loans

	As of December 31,	
	2020	2019
Unsecured bank loans	\$1,283,850	\$1,355,850
Interest rates applied	For the years ended December 31,	
	2020	2019
	0.53%~1.97%	1.96%~2.89%

The Company's unused short-term lines of credit amounted to NT\$27,835 million and NT\$33,063 million as of December 31, 2020 and 2019, respectively.

b. On May 18, 2015, the Company issued SGX-ST listed currency linked zero coupon convertible bonds. In accordance with IAS 32 “Financial Instruments Presentation”, the value of the conversion right of the convertible bonds was determined at issuance and recognized in additional paid-in capital-stock options amounting to NT\$1,894 million, after reduction of issuance costs amounting to NT\$9 million. The effective interest rate on the liability component of the convertible bonds was determined to be 2.03%. The terms and conditions of the bonds are as follows:

- i. Issue Amount: US\$600 million
- ii. Period: May 18, 2015 ~ May 18, 2020 (Maturity date)
- iii. Redemption:
 - (i) The Company may redeem the bonds, in whole or in part, after 3 years of the issuance and prior to the maturity date, at the principal amount of the bonds with an interest calculated at the rate of -0.25% per annum (the Early Redemption Amount) if the closing price of the ordinary shares of the Company on the TWSE, for a period of 20 out of 30 consecutive trading days, the last of which occurs not more than 5 days prior to the date upon which notice of such redemption is published, is at least 125% of the conversion price. The Early Redemption Price will be converted into NTD based on the Fixed Exchange Rate (NTD 30.708=USD 1.00), and this fixed NTD amount will be converted using the prevailing rate at the time of redemption for payment in USD.
 - (ii) The Company may redeem the bonds, in whole, but not in part, at the Early Redemption Amount if at least 90% in principal amount of the bonds has already been converted, redeemed or repurchased and cancelled.
 - (iii) The Company may redeem all, but not part, of the bonds, at the Early Redemption Amount at any time, in the event of certain changes in the R.O.C.’s tax rules which would require the Company to gross up for payments of principal, or to gross up for payments of interest or premium.
 - (iv) All or any portion of the bonds will be redeemable at Early Redemption Amount at the option of bondholders on May 18, 2018 at 99.25% of the principal amount.
 - (v) Bondholders have the right to require the Company to redeem all of the bonds at the Early Redemption Amount if the Company’s ordinary shares cease to be listed on the Taiwan Stock Exchange.
 - (vi) In the event that a change of control as defined in the indenture of the bonds occurs to the Company, the bondholders shall have the right to require the Company to redeem the bonds, in whole but not in part, at the Early Redemption Amount.

iv. Terms of Conversion:

- (i) Underlying Securities: Ordinary shares of the Company
- (ii) Conversion Period: The bonds are convertible at any time on or after June 28, 2015 and prior to May 8, 2020, into the Company ordinary shares; provided, however, that if the exercise date falls within 5 business days from the beginning of, and during, any closed period, the right of the converting holder of the bonds to vote with respect to the shares it receives will be subject to certain restrictions.
- (iii) Conversion Price and Adjustment: The conversion price was originally NT\$17.50 per share. The conversion price will be subject to adjustments upon the occurrence of certain events set out in the indenture.

v. Conversion of Bonds:

The last conversion date of the bonds was on March 31, 2020. For the years ended December 31, 2020 and 2019, the outstanding principal amount of the convertible bonds totaling US\$215 million and US\$15 million had been converted into 465 million shares and 33 million shares, respectively.

Upon the maturity date of May 18, 2020, the Company fully redeemed the remaining unconverted bonds at 98.76% of the principal amount. The principal amount of redemption amounted to US\$369 million. The Company reclassified cancelled convertible rights of NT\$1,166 million from additional paid in capital-stock options to additional paid in capital-others.

(14) Long-Term Loans

Details of long-term loans as of December 31, 2020 and 2019 were as follows:

Lenders	As of December 31,		Redemption
	2020	2019	
Unsecured Long-Term Loan from Bank of Taiwan	\$2,000,000	\$-	Effective March 10, 2022 to December 10, 2024. Principal is repaid in 12 quarterly payments with monthly interest payments.
Unsecured Long-Term Loan from Taiwan Cooperative Bank	2,000,000	-	Effective May 5, 2023 to May 5, 2025. Principal is repaid in 9 quarterly payments with monthly interest payments.

Note B: The Company entered into a 5-year loan agreement with Taipei Fubon Bank, effective from February 9, 2018. The agreement offered the Company a revolving line of credit of NT\$2 billion. This line of credit will be reduced starting from the end of the two years after the first use and every twelve months thereafter, with a total of four adjustments. The expiration date of the agreement is August 9, 2023. As of December 31, 2020 and 2019, the unused line of credit were NT\$0.8 billion and NT\$2 billion, respectively.

Note C: The Company entered into a 5-year loan agreement with Chang Hwa Commercial Bank, effective from November 2, 2016. The agreement offered the Company a revolving line of credit of NT\$3 billion. This line of credit will be reduced starting from the end of the third year after the first use and every three months thereafter, with a total of nine adjustments. The expiration date of the agreement is October 27, 2022. As of December 31, 2020 and 2019, the unused line of credit were NT\$1.7 billion and NT\$0.6 billion, respectively.

Note D: The Company entered into a 5-year loan agreement with KGI Commercial Bank, effective from September 11, 2018. The agreement offered the Company a revolving line of credit of NT\$2.5 billion. This line of credit will be reduced starting from the end of the second year after the first use and every twelve months thereafter, with a total of four adjustments. The expiration date of the agreement is December 11, 2023. As of December 31, 2020 and 2019, the unused line of credit were NT\$1 billion and NT\$2.5 billion, respectively.

Note E: First Commercial Bank approved the 1-year credit loan on December 30, 2019, which offered UMC a revolving line of credit of NT\$2 billion starting from the approval date to December 30, 2020. As of December 31, 2020 and 2019, the unused line of credit were nil and NT\$2 billion, respectively.

(15) Post-Employment Benefits

a. Defined contribution plan

The employee pension plan under the Labor Pension Act of the R.O.C. is a defined contribution plan. Pursuant to the plan, the Company makes monthly contributions of 6% based on each individual employee's salary or wage to employees' pension accounts. Pension benefits for employees of the Singapore branch are provided in accordance with the local regulations. Total pension expenses of NT\$915 million and NT\$893 million are contributed by the Company for the years ended December 31, 2020 and 2019, respectively.

Lenders	As of December 31,		Redemption
	2020	2019	
Unsecured Revolving Loan from Mega International Commercial Bank (Note A)	\$1,500,000	\$2,000,000	Repayable semi-annually from October 16, 2020 to April 16, 2022 with monthly interest payments.
Unsecured Revolving Loan from Taipei Fubon Bank (Note B)	700,000	-	Repayable annually from August 9, 2021 to August 9, 2023 with monthly interest payments.
Unsecured Revolving Loan from Chang Hwa Commercial Bank (Note C)	1,000,000	2,400,000	Repayable quarterly from October 27, 2021 to October 27, 2022 with monthly interest payments.
Unsecured Revolving Loan from KGI Bank (Note D)	1,000,000	-	Repayable annually from December 11, 2021 to December 11, 2023 with monthly interest payments.
Unsecured Revolving Loan from First Commercial Bank (Note E)	300,000	-	Settlement due on May 15, 2025 with monthly interest payments.
Subtotal	8,500,000	4,400,000	
Less: Current portion	(1,000,000)	(500,000)	
Total	\$7,500,000	\$3,900,000	
Interest rates applied	For the years ended December 31,		
	2020	2019	
	0.84% ^a -1.20%	0.55% ^a -1.22%	

Note A: The Company entered into a 5-year loan agreement with Mega International Commercial Bank, effective from October 17, 2016. The agreement offered the Company a revolving line of credit of NT\$3 billion. This line of credit will be reduced starting from the end of the two years and six months after the first use and every six months thereafter, with a total of six adjustments. The expiration date of the agreement is April 16, 2022. As of December 31, 2020 and 2019, the unused line of credit were nil and NT\$0.5 billion, respectively.

b. Defined benefit plan

i. The employee pension plan mandated by the Labor Standards Act of the R.O.C. is a defined benefit plan. The pension benefits are disbursed based on the units of service years and average monthly salary prior to retirement according to the Labor Standards Act. Two units per year are awarded for the first 15 years of services while one unit per year is awarded after the completion of the 15th year and the total units will not exceed 45 units. The Company contributes an amount equivalent to 2% of the employees' total salaries and wages on a monthly basis to the pension fund deposited with the Bank of Taiwan under the name of a pension fund supervisory committee. The pension fund is managed by the government's designated authorities and therefore is not included in the Company's parent company only financial statements. For the years ended December 31, 2020 and 2019, total pension expenses of NT\$40 million and NT\$59 million, respectively, were recognized by the Company.

ii. Movements in present value of defined benefit obligation and fair value of plan assets is as follows:

Movements in present value of defined benefit obligation during the year:

	For the years ended December 31,	
	2020	2019
Defined benefit obligation at beginning of year	\$ (5,411,069)	\$ (5,620,509)
Items recognized as profit or loss:		
Service cost	(13,090)	(21,043)
Interest cost	(36,254)	(51,146)
Subtotal	(49,344)	(72,189)
Remeasurements recognized in other comprehensive income (loss):		
Arising from changes in financial assumptions	(173,615)	(114,976)
Experience adjustments	(70,461)	180,095
Subtotal	(244,076)	65,119
Benefits paid	142,490	216,510
Defined benefit obligation at end of year	\$ (5,561,999)	\$ (5,411,069)

Movements in fair value of plan assets during the year:

	For the years ended December 31,	
	2020	2019
Beginning balance of fair value of plan assets	\$ 1,385,696	\$ 1,453,335
Items recognized as profit or loss:		
Interest income on plan assets	9,284	13,225
Contribution by employer	95,360	94,362
Benefits paid	(142,490)	(216,510)
Remeasurements recognized in other comprehensive income (loss):		
Return on plan assets, excluding amounts included in interest income	51,495	41,284
Fair value of plan assets at end of year	\$ 1,399,345	\$ 1,385,696

The actual returns on plan assets of the Company for the years ended December 31, 2020 and 2019 were NT\$61 million and NT\$55 million, respectively.

iii. The defined benefit plan recognized on the parent company only balance sheets is as follows:

	As of December 31,	
	2020	2019
Present value of the defined benefit obligation	\$ (5,561,999)	\$ (5,411,069)
Fair value of plan assets	1,399,345	1,385,696
Funded status	(4,162,654)	(4,025,373)
Net defined benefit liabilities, noncurrent recognized on the parent company only balance sheets	\$ (4,162,654)	\$ (4,025,373)

iv. The major categories of plan assets as a percentage of the fair value of the total plan assets are as follows:

	As of December 31,	
	2020	2019
Cash	16%	21%
Equity instruments	48%	45%
Debt instruments	25%	24%
Others	11%	10%

(18) Equity

b. Treasury stock:

- i. The Company carried out a treasury stock program and repurchased its shares from the centralized securities exchange market. The purpose for the repurchase and changes in treasury stock during the years ended December 31, 2020 and 2019 were as follows:

For the year ended December 31, 2020
(In thousands of shares)

Purpose	As of January 1, 2020	Increase	Decrease	As of December 31, 2020
For transfer to employees	-	105,000	105,000	-

For the year ended December 31, 2019
(In thousands of shares)

Purpose	As of January 1, 2019	Increase	Decrease	As of December 31, 2019
For transfer to employees	200,000	-	200,000	-
To maintain the Company's credit and its stockholders' rights and interests	280,000	220,000	500,000	-
	480,000	220,000	700,000	-

- ii. According to the Securities and Exchange Law of the R.O.C., the total shares of treasury stock shall not exceed 10% of the Company's issued stock, and the total purchase amount shall not exceed the sum of the retained earnings, additional paid-in capital-premiums and realized additional paid-in capital. As such, the number of shares of treasury stock that the Company held as of December 31, 2020 and 2019, did not exceed the limit.

a. Capital stock:

- i. The Company had 26,000 million common shares authorized to be issued as of December 31, 2020 and 2019, of which 12,422 million shares, and 11,724 million shares were issued as of December 31, 2020 and 2019, respectively, each at a par value of NT\$10.
- ii. The Company had 127 million and 138 million ADSs, which were traded on the NYSE as of December 31, 2020 and 2019, respectively. The total number of common shares of the Company represented by all issued ADSs were 636 million shares and 692 million shares as of December 31, 2020 and 2019, respectively. One ADS represents five common shares.
- iii. On June 28, 2019, the Company cancelled 400 million shares of treasury stock, which were repurchased during the period from May 13 to June 13, 2016 for the purpose of transferring to employees, and repurchased during the period from April 26 to June 13, 2019 for the purpose of maintaining the Company's credit and its stockholders' rights and interests.
- iv. On March 11, 2019, the Company cancelled 300 million shares of treasury stock, which were repurchased during the period from November 7, 2018 to January 4, 2019 for the purpose of maintaining the Company's credit and its stockholders' rights and interests.
- v. Please refer to Note 6(13) for the Company's conversion of unsecured convertible bonds into ordinary shares of the Company for the years ended December 31, 2020 and 2019, respectively.
- vi. On September 1, 2020, the Company issued restricted stocks for its employees in a total of 200 million shares with a par value of NT\$10 each. The issuance was approved by the competent authority and the registration was completed. Please refer to Note 6(19) for the information of restricted stocks.

iii. In compliance with Securities and Exchange Law of the R.O.C., treasury stock held by the Company should not be pledged, nor should it be entitled to voting rights or receiving dividends. Stock held by subsidiaries is treated as treasury stock. These subsidiaries have the same rights as other stockholders except for subscription to new stock issuance and voting rights.

iv. The Company's subsidiary, FORTUNE VENTURE CAPITAL CORP., held shares of the Company's stock through acquiring shares of UNITED SILICON INC. in 1997, and these shares were converted to the Company's stock in 2000 as a result of the Company's 5 in 1 merger. As of December 31, 2020 and 2019, the Company's subsidiary, FORTUNE VENTURE CAPITAL CORP., held 16 million shares of the Company's stock. The closing price on December 31, 2020 and 2019, were NT\$47.15 and NT\$16.45, respectively.

c. Retained earnings and dividend policies:

According to the Company's Articles of Incorporation, current year's earnings, if any, shall be distributed in the following order:

- i. Payment of taxes.
- ii. Making up loss for preceding years.
- iii. Setting aside 10% for legal reserve, except for when accumulated legal reserve has reached the Company's paid-in capital.
- iv. Appropriating or reversing special reserve by government officials or other regulations.
- v. The remaining, if applicable, may be distributed preferentially as preferred shares dividends for the current year, and if there is still a remaining balance, in addition to the previous year's unappropriated earnings, the Company shall distribute it according to the distribution plan proposed by the Board of Directors according to the dividend policy and submitted to the stockholders' meeting for approval.

Because the Company conducts business in a capital intensive industry and continues to operate in its growth phase, the dividend policy of the Company shall be determined pursuant to factors such as the investment environment, its funding requirements, domestic and overseas competitive landscape and its capital expenditure forecast, as well as stockholders' interest, balancing dividends and the Company's long-term financial planning. The Board of Directors shall propose the distribution plan and submit it to the stockholders' meeting every year. The distribution of stockholders' dividend shall be allocated as cash dividend in the range of 20% to 100%, and stock dividend in the range of 0% to 80%.

According to the regulations of Taiwan FSC, the Company is required to appropriate a special reserve in the amount equal to the sum of debit elements under equity, such as unrealized loss on financial instruments and debit balance of exchange differences on translation of foreign operations, at every year-end. Such special reserve is prohibited from distribution. However, if any of the debit elements is reversed, the special reserve in the amount equal to the reversal may be released for earnings distribution or offsetting accumulated deficits.

The appropriation of earnings for 2019 was approved by the stockholders' meeting held on June 10, 2020, while the appropriation of earnings for 2020 was approved by the Board of Directors' meeting on February 24, 2021. The details of distribution are as follows:

	Appropriation of earnings (in thousand NT dollars)		Cash dividend per share (NT dollars)	
	2020	2019	2020	2019
Legal reserve	\$3,197,890	\$963,947		
Special reserve	(2,857,666)	(3,491,626)		
Cash dividends	19,875,842	9,765,155	\$1.60	\$0.75

The appropriation of earnings for 2019 approved by the stockholders' meeting on June 10, 2020 is different from the amounts disclosed in the consolidated and parent company only financial statements for the year ended December 31, 2019 because of the additional legal reserve appropriated for the reversal of special reserve in accordance with the Rule No. 10902005780 subsequently issued by the Ministry of Economic Affairs, R.O.C. on March 3, 2020.

The aforementioned 2019 appropriation approved by stockholders' meeting was consistent with the resolutions of the Board of Directors meeting held on April 27, 2020.

The cash dividend per share for 2019 was adjusted to NT\$0.80395653 per share. The adjustment was made for the net decrease in outstanding common shares due to the share repurchase program and the conversion of convertible bonds into ordinary shares of the Company.

The appropriation of 2020 unappropriated retained earnings has not yet been approved by the stockholder's meeting as of the reporting date. Information relevant to the Board of Directors' meeting recommendations and stockholders' meeting approval can be obtained from the "Market Observation Post System" on the website of the TWSE.

Please refer to Note 6(21) for information on the employees and directors' compensation.

(19) Share-Based Payment

a. Treasury stock plan for employees

In August 2018, the Company executed a compensation plan to offer 200 million shares of treasury stock to qualified employees of the Company. The compensation cost for the shared-based payment was measured at fair value, having recognized in expense the difference between the closing quoted market price of the shares at the grant date and the cash received from employees. The closing quoted market price of the Company's shares on the grant date was NT\$16.95 per share. For the stocks vested on the date of grant, the Company recognized the entire compensation cost once granted, whereas for the stocks with requisite service conditions to vest at the end of one or two years from the date of grant, the Company recognizes the compensation cost over the vesting period in which the services conditions are fulfilled, together with a corresponding increase in equity. For the years ended December 31, 2020 and 2019, the compensation cost of NT\$107 million and NT\$366 million, respectively, were recognized in expenses by the Company.

In September 2020, the Company executed a compensation plan to offer 105 million shares of treasury stock to qualified employees of the Company. The compensation cost for the shared-based payment was measured at fair value, having recognized in expense the difference between the closing quoted market price of the shares at the grant date and the cash received from employees. The closing quoted market price of the Company's shares on the grant date was NT\$21.45 per share. For the stocks vested on the date of grant, the Company recognized the entire compensation cost once granted, whereas for the stocks with requisite service conditions to vest at the end of one year from the date of grant, the Company recognizes the compensation cost over the period in which the services conditions are fulfilled, together with a corresponding increase in equity. For the year ended December 31, 2020, the compensation cost of NT\$348 million was recognized in expenses by the Company.

b. Restricted stock plan for employees

On June 10, 2020, the stockholders approved a compensation plan in their meeting to issue restricted stocks to qualified employees of the Company without consideration. The maximum shares to be issued are 233 million common shares. The Company is authorized to issue restricted stocks in one tranche or in installments, under the custody of trust institution, within one year from the date of receiving the effective registration from the competent authority.

The issuance plan was authorized for effective registration by the Securities and Futures Bureau of the FSC and accordingly, 200 million shares of restricted stock for employees were issued without consideration on September 1, 2020. The life of the plan is four years. Beginning from the end of two years since the date of grant, those employees who fulfill both service period and performance conditions set by the Company are gradually eligible to the vested restricted stocks at certain percentage and time frame. For those employees who fail to fulfill the vesting conditions, the Company will recall and cancel their stocks without consideration. During the vesting period, the restricted stock holders are entitled the same rights as those of common stock holders including the right to receive dividends, but are restricted to sell, pledge, set guarantee, transfer, grant, or dispose the restricted stocks in any other ways. Related information can be obtained from the "Market Observation Post System" on the website of the TWSE.

The compensation cost for the equity-settled share-based payment was measured at fair value based on the closing quoted market price of the shares on the grant date, NT\$21.8 per share. The unvested restricted stocks issued on the grant date for employees are recognized in unearned employee compensation as a transitional contra equity account and such account shall be amortized as compensation expense over the vesting period. For the year ended December 31, 2020, the compensation cost of NT\$504 million was recognized in expenses by the Company.

c. Stock appreciation right plan for employees

In September 2020, the Company executed a compensation plan to grant 3 million units of cash-settled stock appreciation right to qualified employees of the Company without consideration. One unit of stock appreciation right to employees represents a right to the intrinsic value of one common share of the Company. The life of the plan is four years. Beginning from the end of two years since the date of grant, those employees who fulfill both service period and performance conditions set by the Company are gradually eligible to the vested stock appreciation right at certain percentage and time frame. For those employees who fail to fulfill the vesting conditions, the Company will withdraw their rights without consideration. During the vesting period, the holders of the stock appreciation right are not entitled the same rights as those of common stock holders of the Company.

The compensation cost for the cash-settled share-based payment was measured at fair value on the grant date by using Black-Scholes Option Pricing Model and will be remeasured at the end of each reporting period until settlement. The assumptions used are as below:

	As of December 31, 2020
Share price of measurement date (NT\$/ per share)	\$47.15
Expected volatility	33.71%~37.64%
Expected life	1.67~3.67 years
Expected dividend yield	4.73%
Risk-free interest rate	0.14%~0.19%

For the year ended December 31, 2020, the compensation cost of NT\$11 million was recognized in expenses by the Company. As of December 31, 2020, the liabilities for stock appreciation right recognized amounted to NT\$11 million. The intrinsic value for the liabilities of vested rights was nil.

(20) Operating Revenues

a. Disaggregation of revenue

i. By Product

	For the years ended	
	December 31, 2020	2019
Wafer	\$129,573,432	\$117,890,799
Others	5,706,971	5,731,637
Total	\$135,280,403	\$123,622,436

ii. By the timing of revenue recognition

	For the years ended	
	December 31, 2020	2019
At a point in time	\$133,814,180	\$122,771,780
Over time	1,466,223	850,656
Total	\$135,280,403	\$123,622,436

b. Contract balances

i. Contract assets, current

	As of December 31,		
	2020	2019	2018
Sales of goods and services	\$440,748	\$454,323	\$436,638
Less: Loss allowance	(329,654)	(348,033)	(355,451)
Net	\$111,094	\$106,290	\$81,187

The loss allowance was assessed by the Company primarily at an amount equal to lifetime expected credit losses. The loss allowance was mainly resulted from the indictment filed by the United States Department of Justice (DOJ) against the Company related to the joint technology development agreement. Please refer to Note 9(5).

ii. Contract liabilities

	As of December 31,		
	2020	2019	2018
Sales of goods and services	\$1,179,526	\$1,029,104	\$447,702
Current	\$723,046	\$547,024	\$447,702
Noncurrent	456,480	482,080	-
Total	\$1,179,526	\$1,029,104	\$447,702

The movement of contract liabilities is mainly caused by the timing difference of the satisfaction of a performance of obligation and the consideration received from customers.

The Company recognized NT\$350 million and NT\$249 million, respectively, in revenues from the contract liabilities balance at the beginning of the period as performance obligations were satisfied for the years ended December 31, 2020 and 2019.

c. The Company's transaction price allocated to unsatisfied performance obligations amounted to NT\$2,759 million and NT\$2,987 million as of December 31, 2020 and 2019, respectively. The Company will recognize revenue as the Company satisfies its performance obligations over time that aligns with progress toward completion of a contract in the future. As of the report date, the progress cannot be reliably estimated primarily due to the suspension as disclosed in Note 9(5). The estimate of the transaction price does not include any estimated amounts of variable consideration that are constrained.

The Company developed a comprehensive employee welfare system in accordance with laws, government regulations and regional needs to provide employees with competitive salary and welfare conditions. Employees' compensation includes monthly salary, bonus based on operation performance, and the compensation based on the Company's earnings performance and regulated by the articles. The Company conducts a performance evaluation of all employees every year to understand their job performance and uses such information as a reference for promotions, training and distributing compensation.

According to the Company's Articles of Incorporation, the employees and directors' compensation shall be distributed in the following order: The Company shall allocate no less than 5% of profit as employees' compensation and no more than 0.2% of profit as directors' compensation for each profitable fiscal year after offsetting any cumulative losses. The aforementioned employees' compensation will be distributed in shares or cash. The employees of the Company's subsidiaries who fulfill specific requirements stipulated by the Board of Directors may be granted such compensation. Directors may only receive compensation in cash. The Company may, by a resolution adopted by a majority vote at a meeting of the Board of Directors attended by two-thirds of the total number of directors, distribute the aforementioned employees and directors' compensation and report to the stockholders' meeting for such distribution.

The Company recognizes the employees and directors' compensation in the profit or loss during the periods when earned for the years ended December 31, 2020 and 2019. The Board of Directors estimates the amount by taking into consideration the Articles of Incorporation, government regulations and industry averages. If the Board of Directors resolves to distribute employee compensation through stock, the number of stock distributed is calculated based on total employee compensation divided by the closing price of the day before the Board of Directors meeting. If the Board of Directors subsequently modifies the estimates significantly, the Company will recognize the change as an adjustment in the profit or loss in the subsequent period.

The distributions of employees and directors' compensation for 2019 were reported to the stockholders' meeting on June 10, 2020, while the distributions of employees and directors' compensation for 2020 were approved through the Board of Directors meeting on February 24 2021. The details of distribution are as follows:

	2020	2019
Employees' compensation – Cash	\$2,581,675	\$1,132,952
Directors' compensation	32,369	10,259

The aforementioned employees and directors' compensation for 2019 reported during the stockholders' meeting were consistent with the resolutions of the Board of Directors meeting held on February 26, 2020.

Information relevant to the aforementioned employees and directors' compensation can be obtained from the "Market Observation Post System" on the website of the TWSE.

d. Asset recognized from costs to fulfill a contract with customer
As of December 31, 2020 and 2019, the Company recognized costs to fulfill engineering service contracts eligible for capitalization as other current assets which amounted to NT\$439 million and NT\$425 million, respectively. Subsequently, the Company will expense from costs to fulfill a contract to operating costs when the related obligations are satisfied.

(21) Operating Costs and Expenses

a. The Company's employee benefit, depreciation and amortization expenses are summarized as follows:

	For the years ended December 31,					
	2020		2019			
	Operating costs	Operating expenses	Operating costs	Operating expenses		
Employee benefit expenses				Total		
Salaries	\$16,049,294	\$6,917,081	\$22,966,375	\$13,959,517	\$6,010,762	\$19,970,279
Labor and health insurance	822,935	285,675	1,108,610	813,373	309,732	1,123,105
Pension	723,862	231,534	955,396	703,096	248,719	951,815
Remuneration to directors	-	42,169	42,169	-	17,339	17,339
Other employee benefit expenses	186,935	60,876	247,811	227,893	81,520	309,413
Depreciation	26,830,084	1,340,622	28,170,706	30,104,380	1,363,390	31,467,770
Amortization	650,997	1,378,394	2,029,391	682,686	1,189,389	1,872,075

b. The Company's policy for compensation of directors, managers and employees is as follows:

The Company set the policy for directors and employees' compensation in the Company's Articles of Incorporation and established the Remuneration Committee to evaluate and monitor the Company's remuneration system for its directors and executive officers. The Company shall assess the performance of directors and executive officers according to the Rules for Performance Assessment of the Board of Directors and the Performance Appraisal for employees of the Company, in order to determine their compensation. An adequate compensation scheme will be calculated by referencing the Company's operation results, future risks, corporate strategies, industry trends and also individual contribution.

c. The number of the Company's employees were 14,313 and 14,589, including 5 and 6 non-employee directors as of December 31, 2020 and 2019, respectively.

d. The Company's average employee benefit expenses for the years ended December 31, 2020 and 2019 were NT\$2 million and NT\$2 million, respectively. The Company's average salary expenses for the years ended December 31, 2020 and 2019 were NT\$2 million and NT\$1 million. The Company's average salary expense adjustment for the year ended December 31, 2020 increased by 17.2%.

e. The Company has established the Audit Committee in replace of supervisors and therefore the supervisors' remuneration for the years ended December 31, 2020 and 2019 were both nil.

(22) Net Operating Income and Expenses

	For the years ended	
	December 31,	2019
Net rental loss from property	\$(130,130)	\$(122,277)
Government grants	716,046	77,832
Gain on disposal of property, plant and equipment	249,572	137,308
Others	99,846	98,245
Total	\$935,334	\$191,108

(23) Non-Operating Income and Expenses

	For the years ended	
	December 31,	2019
Gain on valuation of financial assets and liabilities at fair value through profit or loss	\$828,003	\$964,614
Gain on disposal of investments	499	-
Others	(1,944,746)	52,564
Total	\$(1,116,244)	\$1,017,178

The Company recognized the losses for the charges brought by the U.S. Department of Justice regarding allegation of conspiracy to engage in theft of trade secrets. Please refer to Note 9(5).

b. Finance costs

	For the years ended	
	December 31,	2019
Interest expenses	\$377,193	\$672,902
Bonds payable	122,849	62,435
Bank loans	61,854	82,821
Lease liabilities	186	155
Others	47,438	43,288
Financial expenses	\$609,520	\$861,601
Total		

(24) Components of Other Comprehensive Income (Loss)

	For the year ended December 31, 2020			
	Arising during the period	Reclassification adjustments during the period	Other comprehensive income (loss) before tax effect	Other comprehensive income (loss) net of tax
Items that will not be reclassified subsequently to profit or loss:				
Remeasurements of defined benefit pension plans	\$(192,581)	\$-	\$(192,581)	\$38,516
Unrealized gains or losses from equity instruments investments measured at fair value through other comprehensive income	4,574,491	-	4,574,491	15,805
Share of other comprehensive income (loss) of subsidiaries, associates and joint ventures which will not be reclassified subsequently to profit or loss	3,065,086	-	3,065,086	103
Exchange differences on translation of foreign operations	(2,919,741)	(432)	(2,920,173)	(2,920,173)
Share of other comprehensive income (loss) of subsidiaries, associates and joint ventures which may be reclassified subsequently to profit or loss	(64,619)	(67)	(64,686)	42,320
Total other comprehensive income (loss)	\$4,462,636	\$(499)	\$4,462,137	\$96,744

(25) Income Tax

a. The major components of income tax expense (benefit) for the years ended December 31, 2020 and 2019 were as follows:

	For the years ended	
	December 31,	2019
	2020	2019
i. Income tax expense (benefit) recorded in profit or loss		
Current income tax expense (benefit):		
Current income tax charge	\$639,110	\$163,773
Adjustments in respect of current income tax of prior periods	(846,238)	(824,921)
Deferred income tax expense (benefit):		
Deferred income tax related to origination and reversal of temporary differences	238,712	463,869
Deferred income tax related to recognition and derecognition of tax losses and unused tax credits	748,837	(226,634)
Adjustment of prior year's deferred income tax	(135,238)	118,384
Deferred income tax arising from write-down or reversal of write-down of deferred tax assets	-	(268,986)
Income tax expense (benefit) recorded in profit or loss	\$645,183	\$(574,515)

ii. Income tax related to components of other comprehensive income (loss)

(i) Items that will not be reclassified subsequently to profit or loss:

	For the years ended	
	December 31,	2019
	2020	2019
Remeasurements of defined benefit pension plans	\$38,516	\$(21,281)
Unrealized gains or losses from equity instruments measured at fair value through other comprehensive income	15,805	(136,979)
Share of other comprehensive income (loss) of subsidiaries, associates and joint ventures which will not be reclassified subsequently to profit or loss	103	-
Income tax related to items that will not be reclassified subsequently to profit or loss	\$54,424	\$(158,260)

For the year ended December 31, 2019

	Reclassification adjustments during the period		Other comprehensive income (loss), before tax effect		Other comprehensive income (loss), net of tax	
	Arising during the period	adjustments during the period	income (loss), before tax	Income tax effect	income (loss), net of tax	
Items that will not be reclassified subsequently to profit or loss:						
Remeasurements of defined benefit pension plans	\$106,403	\$-	\$106,403	\$(21,281)	\$85,122	
Unrealized gains or losses from equity instruments	5,605,384	-	5,605,384	(136,979)	5,468,405	
investments measured at fair value through other comprehensive income	1,112,547	-	1,112,547	-	1,112,547	
Share of other comprehensive income (loss) of subsidiaries, associates and joint ventures which will not be reclassified subsequently to profit or loss	(1,045,504)	-	(1,045,504)	-	(1,045,504)	
Items that may be reclassified subsequently to profit or loss:						
Exchange differences on translation of foreign operations	(2,204,824)	-	(2,204,824)	8,252	(2,196,572)	
Share of other comprehensive income (loss) of subsidiaries, associates and joint ventures which may be reclassified subsequently to profit or loss	\$3,574,006	\$-	\$3,574,006	\$(150,008)	\$3,423,998	
Total other comprehensive income (loss)						

(ii) Items that may be reclassified subsequently to profit or loss:

	For the years ended December 31,	
	2020	2019
Share of other comprehensive income (loss) of subsidiaries, associates and joint ventures which may be reclassified subsequently to profit or loss	\$42,320	\$8,252

iii. Deferred income tax charged directly to equity

	For the years ended December 31,	
	2020	2019
Recognize (reversal) of temporary difference arising from initial recognition of the equity component of the compound financial instrument	\$3,691	\$(45)
Gains or losses on hedging instruments which will not be reclassified subsequently to profit or loss	-	(514)
Deferred income tax charged directly to equity	\$3,691	\$(559)

b. A reconciliation between income tax expense (benefit) and income before tax at the Company's applicable tax rate was as follows:

	For the years ended December 31,	
	2020	2019
Income before tax	\$29,834,672	\$9,133,099
At statutory income tax rate	5,966,934	1,826,620
Adjustments in respect of current income tax of prior periods	(846,238)	(824,921)
Net changes in loss carry-forward and investment tax credits	(468,013)	(300,718)
Adjustment of deferred tax assets/liabilities for write-downs/reversals and different jurisdictional tax rates	(442,391)	(75,647)
Tax effect of non-taxable income and non-deductible expenses:		
Tax exempt income	(2,382,622)	(1,716,029)
Investment loss (gain)	(1,653,898)	406,047
Dividend income	(106,486)	(123,825)
Others	70,051	129,800
Taxes withheld in other jurisdictions	25,337	13,254
Others	482,509	90,904
Income tax expense (benefit) recorded in profit or loss	\$645,183	\$(574,515)

c. Significant components of deferred income tax assets and liabilities are as follows:

	As of December 31,	
	2020	2019
Deferred income tax assets		
Depreciation	\$998,836	\$1,111,077
Loss carry-forward	-	499,539
Pension	824,888	797,432
Refund liabilities	240,165	339,185
Allowance for inventory valuation losses	449,139	570,450
Investment loss	101,384	117,515
Unrealized profit on intercompany sales	1,348,202	1,568,645
Investment tax credits	331,174	475,952
Others	128,222	139,084
Total deferred income tax assets	4,422,010	5,618,879
Deferred income tax liabilities		
Unrealized exchange gain	(59,334)	(565,175)
Depreciation	(66,827)	(453,176)
Investment gain	(551,747)	(530,190)
Convertible bond option	-	(69,485)
Others	(687)	(11,792)
Total deferred income tax liabilities	(1,178,595)	(1,629,818)
Net deferred income tax assets	\$3,243,415	\$3,989,061

d. Movement of deferred tax

	For the years ended December 31,	
	2020	2019
Balance as of January 1	\$3,989,061	\$4,221,201
Impact of retroactive applications	-	93
Adjusted balance as of January 1	3,989,061	4,221,294
Amounts recognized in profit or loss during the period	(852,311)	(86,633)
Amounts recognized in other comprehensive income (loss)	96,744	(150,008)
Amounts recognized in equity	3,691	(559)
Exchange adjustments	6,230	4,967
Balance as of December 31	\$3,243,415	\$3,989,061

e. The Company is subject to taxation in Taiwan and other foreign jurisdictions. The Company's income tax returns for all the fiscal years up to 2018 have been assessed and approved by the R.O.C. Tax Authority. As of December 31, 2020, income tax returns of Singapore branch has been completed the examination by the tax authorities through 2014. There is an uncertain tax position that the outcome of the income tax returns of the Company may not be accepted by the tax authorities of the respective countries of operations. For the recognition and measurement of deferred income tax and current income tax which involved significant accounting judgments, estimates and assumptions, please refer to Note 5(5).

f. The Company was granted income tax exemption for several periods with respect to income derived from the expansion of operations. The income tax exemption had expired on December 31, 2020.

g. As of December 31, 2020 and 2019, the taxable temporary differences of unrecognized deferred tax liabilities associated with investments in subsidiaries amounted to NT\$11,463 million and NT\$11,389 million, respectively.

(26) Earnings Per Share

a. Earnings per share-basic

	For the years ended December 31,	
	2020	2019
Net income	\$29,189,489	\$9,707,614
Weighted-average number of ordinary shares for basic earnings per share (thousand shares)	12,072,969	11,785,108
Earnings per share-basic (NTD)	\$2.42	\$0.82

b. Earnings per share-diluted

	For the years ended December 31,	
	2020	2019
Net income	\$29,189,489	\$9,707,614
Effect of dilution		
Unsecured convertible bonds	69,019	289,121
Income attributable to the Company's stockholders	\$29,258,508	\$9,996,735

	For the years ended December 31,	
	2020	2019
Weighted-average number of common stocks for basic earnings per share (thousand shares)	12,072,969	11,785,108
Effect of dilution		
Restricted stocks for employees	30,911	-
Employees' compensation	65,657	90,047
Unsecured convertible bonds	303,630	1,295,729
Weighted-average number of common stocks after dilution (thousand shares)	12,473,167	13,170,884
Earnings per share-diluted (NTD)	\$2.35	\$0.76

(27) Reconciliation of Liabilities Arising from Financing Activities

For the year ended December 31, 2020:

Items	Non-cash changes		
	As of January 1, 2020	Cash Flows	As of December 31, 2020
Short-term loans	\$1,355,850	\$5,865	\$1,283,850
Long-term loans (current portion included)	4,400,000	4,100,000	8,500,000
Bonds payable (current portion included)	38,781,416	(13,702,875)	18,690,384
Guarantee deposits (current portion included)	194,711	(30,268)	162,973
Lease liabilities	3,237,102	(323,743)	2,831,564
Other financial liabilities-noncurrent	20,093,441	-	20,746,624
		(1,470)	
		(6,388,157)	
		(Note B)	

For the year ended December 31, 2019:

Items	Non-cash changes			As of December 31, 2019
	January 1, 2019	Cash Flows	Foreign exchange	
Short-term loans	\$1,384,650	\$22,860	\$ (51,660)	\$1,355,850
Long-term loans (current portion included)	1,000,000	3,580,180	(180,180)	4,400,000
Bonds payable (current portion included)	41,378,182	(2,500,000)	-	38,781,416
Guarantee deposits (current portion included)	622,033	190,848	1,177	194,711
Lease liabilities	3,578,071	(462,642)	4,408	3,237,102
Other financial liabilities-noncurrent	20,410,355	-	(698,127)	20,093,441

Note A: Other non-cash changes mainly consisted of discount amortization measured by the effective interest method.

Note B: Please refer to Note 6(13) for the Company's convertible bonds.

Note C: Please refer to Note 9(4) for more details on other financial liabilities-noncurrent.

7. RELATED PARTY TRANSACTIONS

The following is a summary of transactions between the Company and related parties during the financial reporting periods:

(1) Name and Relationship of Related Parties

Name of related parties	Relationship with the Company
UMC GROUP (USA) (UMC-USA)	Subsidiary
UNITED SEMICONDUCTOR JAPAN CO., LTD.	Subsidiary
WAVE TEK MICROELECTRONICS CORPORATION	Subsidiary
UMC GROUP JAPAN	Subsidiary
HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	Subsidiary
UNITED SEMICONDUCTOR (SHANDONG) CO., LTD.	Subsidiary
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Subsidiary
FARADAY TECHNOLOGY CORP. and its Subsidiaries	Associate
UNIMICRON TECHNOLOGY CORP.	Associate
SILICON INTEGRATED SYSTEMS CORP.	The Company's director
PHOTRONICS DNP MASK CORPORATION	Other related parties
UNITEDVISION SEMICONDUCTOR CO., LTD.	Other related parties
UPI SEMICONDUCTOR CORP.	Other related parties

(2) Significant Related Party Transactions

a. Operating transactions

	For the years ended December 31,	
	2020	2019
<u>Operating revenues</u>		
UMC-USA	\$49,357,981	\$47,736,335
Subsidiaries	2,501,607	5,182,626
Associates	1,240,161	830,682
Others	25,159	40,049
Total	\$53,124,908	\$53,789,692
<u>Accounts receivable, net</u>		
	As of December 31,	
	2020	2019
UMC-USA	\$5,402,792	\$5,937,706
Subsidiaries	35,567	654,583
Associates	117,063	93,287
Others	6,119	9,540
Total	5,561,541	6,695,116
Less: Loss allowance	(14,802)	(11,180)
Net	\$5,546,739	\$6,683,936

The sales price to the above related parties was determined through mutual agreement in reference to market conditions. The collection period for domestic sales to related parties were month-end 30-60 days, while the collection period for overseas sales was net 30-60 days.

Refund liabilities (classified under other current liabilities)

	As of December 31,	
	2020	2019
UMC-USA	\$259,191	\$292,483
Subsidiaries	26	8,168
Associates	1,059	592
Others	36	48
Total	\$260,312	\$301,291

b. Significant asset transactions

Disposal of property, plant and equipment

Item	For the year ended December 31, 2020	
	Disposal amount	Disposal/Deferred gain
Subsidiaries Disposal of property, plant and equipment	\$478,270	\$184,153

Item	For the year ended December 31, 2019	
	Disposal amount	Disposal/Deferred gain
Subsidiaries Disposal of property, plant and equipment	\$287,092	\$45,422

Acquisition of intangible assets

	Purchase price	
	For the years ended December 31,	
	2020	2019
Associates	\$335,425	\$339,463

Acquisition of investments accounted for under the equity method

Please refer to Major Accounting Item 9.

c. Others

Mask expenditure

	For the years ended December 31,	
	2020	2019
Others	\$1,754,657	\$1,755,085

Other payables of mask expenditure

	As of December 31,	
	2020	2019
Others	\$522,329	\$448,302

d. Financing provided to others and Endorsement/Guarantee provided to others

Please refer to Attachment 1 and Attachment 2.

e. Key management personnel compensation

	For the years ended December 31,	
	2020	2019
Short-term employee benefits	\$307,779	\$159,990
Post-employment benefits	2,255	2,147
Share-based payment	323,317	62,135
Total	\$633,351	\$224,272

8. ASSETS PLEDGED AS COLLATERAL

The following table lists assets of the Company pledged as collateral:

As of December 31, 2020 and 2019

Items	Carrying Amount		Party to which asset(s) was pledged	Purpose of pledge
	2020	2019		
Refundable Deposits (Time deposit)	\$811,072	\$810,035	Customs	Customs duty guarantee
Refundable Deposits (Time deposit)	217,530	331,361	Science Park Bureau	Collateral for land lease
Refundable Deposits (Time deposit)	18,215	19,510	Science Park Bureau	Collateral for dormitory lease
Refundable Deposits (Time deposit)	41,785	41,785	Liquefied Natural Gas Business Division, CPC Corporation, Taiwan	Energy resources guarantee
Refundable Deposits (Time deposit)	1,000,000	1,000,000	Bank of China	Bank performance guarantee
Total	\$2,088,602	\$2,202,691		

9. SIGNIFICANT CONTINGENCIES AND UNRECOGNIZED CONTRACT COMMITMENTS

- (1) As of December 31, 2020, the Company entrusted financial institutes to open performance guarantee, mainly related to the litigations and customs tax guarantee, amounting to NT\$1.1 billion.
- (2) The Company entered into several patent license agreements and development contracts of intellectual property for a total contract amount of approximately NT\$3.6 billion. As of December 31, 2020, the portion of royalties and development fees not yet recognized was NT\$1.0 billion.
- (3) The Company entered into several construction contracts for the expansion of its operations. As of December 31, 2020, these construction contracts amounted to approximately NT\$0.2 billion and the portion of the contracts not yet recognized was approximately NT\$0.2 billion.
- (4) The Board of Directors of the Company resolved in October 2014 to participate in a 3-way agreement with Xiamen Municipal People's Government and FUJIAN ELECTRONIC & INFORMATION GROUP to form a company which will focus on 12" wafer foundry services. The Company and subsidiaries obtained R.O.C. government authority's approval for the investment and invested RMB 8.3 billion in USXXM in instalments from January 2015 to September 2018, according to the agreement that the Company obtained the ability to exercise control. Furthermore, based on the agreement, the Company recognized a financial liability in other noncurrent liabilities-others for the purchase from the other investors of their investments in USXXM at their original investment cost plus interest totally amounting to RMB 4.9 billion, beginning from the seventh year (2022) following the last instalment payment made by the other investors.
- (5) On August 31, 2017, the Taichung District Prosecutors Office indicted the Company based on the Trade Secret Act of R.O.C., alleging that employees of the Company misappropriated the trade secrets of MICRON TECHNOLOGY, INC. ("MICRON"). On June 12, 2020, an adverse ruling issued by the District Court of Taichung in a suit alleged that the Company, two of its current employees and a former employee engaged in the misappropriation of trade secrets. The Company does not expect material financial impact resulting from this claim. The Company intends to appeal against the sentence. On December 5, 2017, MICRON filed a civil action with similar cause against the Company with the United States District Court, Northern District of California. MICRON claimed entitlement to the actual damages, treble damages and relevant fees and requested the court to issue an order that enjoins the Company from using its trade secrets in question. The Company has appointed counsels to prepare answers against these charges. Currently the civil complaint has been stayed by the court.

On January 12, 2018, the Company filed three patent infringement actions with the Fuzhou Intermediate People's Court against, among others, MICRON (XI'AN) CO., LTD. and MICRON (SHANGHAI) TRADING CO., LTD., requesting the court to order the defendants to stop manufacturing, processing, importing, selling, and committing to sell the products deploying the infringing patents in questions, and also to destroy all inventories and related molds and tools. On July 3, 2018, the Fuzhou Intermediate People's Court granted preliminary injunction against the aforementioned two defendants, holding that the two defendants must immediately cease to manufacture, sell, and import products that infringe the patent rights of the Company. The court approved withdrawal of one of the patent infringement actions on our motion while the other two actions are still on trial.

On November 1, 2018, the Department of Justice of the United States ("DOJ") unsealed an indictment against the Company, FUJIAN JINHUA INTEGRATED CIRCUIT CO., LTD. ("JINHUA"), and three individuals, including one current employee and two former employees of the Company, alleging that the Company and others conspired to steal trade secrets of MICRON, and used that information to develop technology that was subsequently transferred to JINHUA. On the same day, the DOJ filed a civil complaint enjoining the aforementioned defendants from exporting to the United States any products containing DRAM manufactured by the Company or JINHUA and preventing the defendants from transferring the trade secrets to anyone else. Besides, the Company has suspended the joint technology development activities with JINHUA. With respect to the criminal proceedings, on October 22, 2020, the Company filed a sentencing memorandum with the court, proposing to plead guilty to a lesser charge and to pay a fine of US\$60 million. On October 29, 2020, the court approved the above-mentioned sentencing memorandum submitted by the Company. The parallel civil suit will be dismissed. The Company has recorded the fine in non-operating other losses.

(6) On March 14, 2019, a putative class action styled Meyer v. United Microelectronics Corporation and several executives, was filed under Securities Exchange Act of 1934 and Rule 10b-5 in the United States District Court for the Southern District of New York. The court appointed a lead plaintiff and approved lead plaintiff counsels on May 23, 2019. On September 27, 2019, the Company received the service of plaintiffs' amended complaint and appointed counsels to prepare the relevant procedures. Currently the mediation process has been completed and now under trial. The Company does not expect material financial impact resulting from this claim.

10. SIGNIFICANT DISASTER LOSS

None.

11. SIGNIFICANT SUBSEQUENT EVENTS

None.

12. OTHERS

314

 (1) Categories of financial instruments

	As of December 31,	
	2020	2019
Financial Assets		
Financial assets at fair value through profit or loss	\$5,966,442	\$5,114,228
Financial assets at fair value through other comprehensive income	9,950,639	14,388,597
Financial assets measured at amortized cost		
Cash and cash equivalents (excludes cash on hand)	69,045,145	66,530,103
Receivables	21,299,687	21,311,152
Refundable deposits	2,253,285	2,532,392
Other financial assets	13,124,347	804,933
Total	\$121,639,545	\$110,681,405
Financial Liabilities		
Financial liabilities at fair value through profit or loss	\$2,326	\$-
Financial liabilities measured at amortized cost		
Short-term loans	1,283,850	1,355,850
Payables	22,219,635	18,637,282
Guarantee deposits (current portion included)	162,973	194,711
Bonds payable (current portion included)	18,690,384	38,781,416
Long-term loans (current portion included)	8,500,000	4,400,000
Lease liabilities	2,831,564	3,237,102
Other financial liabilities	20,746,624	20,093,441
Total	\$74,437,356	\$86,699,802

 (2) Financial risk management objectives and policies

The Company's risk management objectives are to manage the market risk, credit risk and liquidity risk related to its operating activities. The Company identifies, measures and manages the aforementioned risks based on policy and risk preference.

The Company has established appropriate policies, procedures and internal controls for financial risk management. Before entering into significant financial activities, approval process by the Board of Directors and Audit Committee must be carried out based on related protocols and internal control procedures. The Company complies with its financial risk management policies at all times.

 (3) Market risk

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risks comprise currency risk, interest rate risk and other price risk (such as equity price risk).

Foreign currency risk

The Company's exposure to the risk of changes in foreign exchange rates relates primarily to the Company's operating activities (when revenue or expense is denominated in a different currency from the Company's functional currency) and the Company's net investments in foreign subsidiaries.

The Company applies natural hedges on the foreign currency risk arising from purchases or sales, and utilizes spot or forward exchange contracts to manage foreign currency risk and the net effect of the risks related to monetary financial assets and liabilities is minor. The notional amounts of the foreign currency contracts are the same as the amount of the hedged items. In principle, the Company does not carry out any forward exchange contracts for uncertain commitments. The Company designates certain forward currency contracts as cash flow hedges to hedge its exposure to foreign currency exchange risk associated with certain highly probable forecast transactions. On the basis of assessment, the Company expects that the value of forward currency exchange contracts and the value of the hedged transactions will change systematically in opposite directions for given changes in foreign exchange rates. Hedge ineffectiveness in these hedging relationships mainly arises from the counterparties' credit risk, impacting the fair value movements of the hedging instruments and hedged items. No other sources of ineffectiveness emerged from these hedging relationships. Furthermore, as net investments in foreign subsidiaries are for strategic purposes, they are not hedged by the Company.

Certain forward exchange contracts designated by the Company to hedge foreign currency exchange rate risks associated with the purchase of additional shares of USJC in JPY, amounting to JPY 2.3 billion, expired prior to December 31, 2018. The cash flow hedge reserve in other components of equity, amounting to NT\$(3) million, was recognized as consideration for the ownership interest of 84.1% in USJC on October 1, 2019. Please refer to Note 6(6).

The foreign currency sensitivity analysis of the possible change in foreign exchange rates on the Company's profit is performed on significant monetary items denominated in foreign currencies as of the end of the reporting period. When NTD strengthens/weakens against USD by 10%, the profit for the years ended December 31, 2020 and 2019 decreases/increases by NT\$883 million and NT\$1,009 million, respectively.

Interest rate risk

The Company is exposed to interest rate risk arising from borrowing at floating interest rates. All of the Company's bonds have fixed interest rates and are measured at amortized cost. As such, changes in interest rates would not affect the future cash flows. On the other hand, as the interest rates of the Company's short-term and long-term bank loans are floating, changes in interest rates would affect the future cash flows but not the fair value. Please refer to Note 6(11), 6(13) and 6(14) for the range of interest rates of the Company's bonds and bank loans.

At the reporting dates, a change of 10 basis points of interest rate in a reporting period could cause the profit for the years ended December 31, 2020 and 2019 to decrease/increase by NT\$10 million and NT\$6 million, respectively.

Equity price risk

The Company's listed and unlisted equity securities are susceptible to market price risk arising from uncertainties about future performance of equity markets. The Company's equity investments are classified as financial assets at fair value through profit or loss and financial assets at fair value through other comprehensive income.

The sensitivity analysis for the equity instruments is based on the change in fair value as of the reporting date. A change of 5% in the price of the aforementioned financial assets at fair value through profit or loss of listed companies could increase/decrease the Company's profit for the years ended December 31, 2020 and 2019 by NT\$193 million and NT\$174 million, respectively. A change of 5% in the price of the aforementioned financial assets at fair value through other comprehensive income of listed companies could increase/decrease the Company's other comprehensive income for the years ended December 31, 2020 and 2019 by NT\$453 million and NT\$671 million, respectively.

(4) Credit risk management

The Company only trades with approved and creditworthy third parties. Where the Company trades with third parties which have less credit, it will request collateral from them. It is the Company's policy that all customers who wish to trade on credit terms are subject to credit verification procedures. In addition, notes and accounts receivable balances are monitored on an ongoing basis to decrease the Company's exposure to credit risk.

The Company mitigates the credit risks from financial institutions by limiting its counter parties to only reputable domestic or international financial institutions with good credit standing and spreading its holdings among various financial institutions. The Company's exposure to credit risk arising from the default of counter-parties is limited to the carrying amount of these instruments.

As of December 31, 2020 and 2019, accounts receivable from the top ten customers represent 81% and 84% of the total accounts receivable of the Company, respectively. The credit concentration risk of other accounts receivable is insignificant.

(5) Liquidity risk management

The Company's objectives are to maintain a balance between continuity of funding and flexibility through the use of cash and cash equivalents, bank loans, bonds and lease.

The table below summarizes the maturity profile of the Company's financial liabilities based on the contractual undiscounted payments and contractual maturity:

	As of December 31, 2020				
	Less than 1 year	2 to 3 years	4 to 5 years	> 5 years	Total
Non-derivative financial liabilities					
Short-term loans	\$1,300,497	\$-	\$-	\$-	\$1,300,497
Payables	22,073,362	-	-	-	22,073,362
Guarantee deposits	-	162,973	-	-	162,973
Bonds payable	2,374,587	8,484,393	8,563,021	-	19,422,001
Long-term loans	1,090,481	5,352,775	2,346,851	-	8,790,107
Lease liabilities	308,258	599,100	523,572	1,815,393	3,246,323
Other financial liabilities	-	17,120,418	4,280,333	-	21,400,751
Total	\$27,147,185	\$31,719,659	\$15,713,777	\$1,815,393	\$76,396,014
Derivative financial liabilities					
Forward exchange contracts					
Gross settlement					
Inflow	\$393,442	\$-	\$-	\$-	\$393,442
Outflow	(395,768)	-	-	-	(395,768)
Net	\$(2,326)	\$-	\$-	\$-	\$(2,326)
	As of December 31, 2019				
	Less than 1 year	2 to 3 years	4 to 5 years	> 5 years	Total
Non-derivative financial liabilities					
Short-term loans	\$1,389,620	\$-	\$-	\$-	\$1,389,620
Payables	18,464,191	-	-	-	18,464,191
Guarantee deposits	98,824	95,887	-	-	194,711
Bonds payable	20,659,607	10,590,265	8,689,971	-	39,939,843
Long-term loans	539,584	3,969,030	-	-	4,508,614
Lease liabilities	325,059	625,393	584,285	2,250,847	3,785,584
Other financial liabilities	-	12,668,287	8,445,826	-	21,114,113
Total	\$41,476,885	\$27,948,862	\$17,720,082	\$2,250,847	\$89,396,676

(6) Foreign currency risk management

The Company entered into forward exchange contracts for hedging the exchange rate risk arising from the net monetary assets or liabilities denominated in foreign currency. The details of forward exchange contracts entered into by the Company are summarized as follows:

As of December 31, 2020

Type	Notional Amount	Contract Period
Forward exchange contracts	Sell USD 82 million	December 11, 2020~ February 5, 2021

As of December 31, 2019

None.

(7) Fair value of financial instruments

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either in the principal market for the asset or liability, or in the absence of a principal market, in the most advantageous market for the asset or liability.

The principal or the most advantageous market must be accessible by the Company.

The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

The Company uses valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs.

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorized within the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

- Level 1 — Quoted (unadjusted) market prices in active markets for identical assets or liabilities;
- Level 2 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observable;
- Level 3 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable.

For assets and liabilities that are recognized in the financial statements on a recurring basis, the Company determines whether transfers have occurred between levels in the hierarchy by re-assessing categorization (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

a. Assets and liabilities measured and recorded at fair value on a recurring basis:

	As of December 31, 2020			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Financial assets at fair value through profit or loss, current	\$1,049,334	\$2,384	\$-	\$1,051,718
Financial assets at fair value through profit or loss, noncurrent	2,981,083	20,000	1,913,641	4,914,724
Financial assets at fair value through other comprehensive income, noncurrent	9,058,372	-	892,267	9,950,639
Financial liabilities:				
Financial liabilities at fair value through profit or loss, current	-	2,326	-	2,326
As of December 31, 2019				
Financial assets:				
Financial assets at fair value through profit or loss, current	\$668,476	\$-	\$-	\$668,476
Financial assets at fair value through profit or loss, noncurrent	2,816,636	20,125	1,608,991	4,445,752
Financial assets at fair value through other comprehensive income, noncurrent	13,417,308	-	971,289	14,388,597

Fair values of financial assets at fair value through profit or loss and financial assets at fair value through other comprehensive income that are categorized into level 1 are based on the quoted market prices in active markets. If there is no active market, the Company estimates the fair value by using the valuation techniques (income approach and market approach) in consideration of cash flow forecast, recent fund raising activities, valuation of similar companies, individual company's development, market conditions and other economic indicators. If there are restrictions on the sale or transfer of a financial asset, which are a characteristic of the asset, the fair value of the asset will be determined based on similar but unrestricted financial assets' quoted market price with appropriate discounts for the restrictions. To measure fair values, if the lowest level input that is significant to the fair value measurement is directly or indirectly observable, then the financial assets are classified as Level 2 of the fair value hierarchy, otherwise as Level 3.

During the years ended December 31, 2020 and 2019, there were no significant transfers between Level 1 and Level 2 fair value measurements.

Reconciliation for fair value measurement in Level 3 fair value hierarchy is as follows:

	Financial assets at fair value through profit or loss			Financial assets at fair value through other comprehensive income		
	Common stock	Preferred stock	Total	Common stock	Preferred stock	Total
As of January 1, 2020	\$1,608,991	\$795,795	\$971,289	\$795,795	\$175,494	\$971,289
Recognized in profit	304,650	-	-	-	-	-
Recognized in other comprehensive income (loss)	-	(73,673)	(79,022)	(73,673)	(5,349)	(79,022)
As of December 31, 2020	\$1,913,641	\$722,122	\$892,267	\$722,122	\$170,145	\$892,267
	Financial assets at fair value through profit or loss			Financial assets at fair value through other comprehensive income		
	Common stock	Preferred stock	Total	Common stock	Preferred stock	Total
As of January 1, 2019	\$1,444,269	\$2,781,364	\$2,965,390	\$2,781,364	\$184,026	\$2,965,390
Recognized in profit	164,722	-	-	-	-	-
Recognized in other comprehensive income (loss)	-	318,419	309,887	318,419	(8,532)	309,887
Disposal	-	(2,303,988)	(2,303,988)	(2,303,988)	-	(2,303,988)
As of December 31, 2019	\$1,608,991	\$795,795	\$971,289	\$795,795	\$175,494	\$971,289

The total profit (loss) of NT\$305 million and NT\$165 million for the years ended December 31, 2020 and 2019, were included in profit or loss that is attributable to the change in unrealized gains or losses relating to those financial assets without quoted market prices held at the end of the reporting period.

The Company's policy to recognize the transfer into and out of fair value hierarchy levels is based on the event or changes in circumstances that caused the transfer.

Significant unobservable inputs of fair value measurement in Level 3 fair value hierarchy are as follows:

Category of equity securities	As of December 31, 2020			
	Valuation technique	Significant unobservable inputs	Interrelationship between inputs and fair value	Sensitivity analysis of interrelationship between inputs and fair value
Unlisted stock	Market Approach	Discount for lack of marketability	The greater degree of lack of marketability, the lower the estimated fair value is determined.	A change of 5% in the discount for lack of marketability of the aforementioned fair values of unlisted stocks could decrease/increase the Company's profit (loss) and other comprehensive income (loss) for the year ended December 31, 2020 by NT\$96 million and NT\$48 million, respectively.

Category of equity securities	As of December 31, 2019			
	Valuation technique	Significant unobservable inputs	Interrelationship between inputs and fair value	Sensitivity analysis of interrelationship between inputs and fair value
Unlisted stock	Market Approach	Discount for lack of marketability	The greater degree of lack of marketability, the lower the estimated fair value is determined.	A change of 5% in the discount for lack of marketability of the aforementioned fair values of unlisted stocks could decrease/increase the Company's profit (loss) and other comprehensive income (loss) for the year ended December 31, 2019 by NT\$85 million and NT\$53 million, respectively.

b. Assets and liabilities not recorded at fair value but for which fair value is disclosed:

The fair value of bonds payable is estimated by the market price or using a valuation model. The model uses market-based observable inputs including share price, volatility, credit spread and risk-free interest rates. The fair value of long-term loans is determined using discounted cash flow model, based on the Company's current incremental borrowing rates of similar loans.

The fair values of the Company's short-term financial instruments including cash and cash equivalents, receivables, refundable deposits, other financial assets-current, short-term loans, payables and guarantee deposits approximate their carrying amount due to their maturities within one year.

As of December 31, 2020

Items	Fair value	Fair value measurements during reporting period using			Carrying amount
		Level 1	Level 2	Level 3	
Bonds payables (current portion included)	\$18,861,597	\$18,861,597	\$-	\$-	\$18,690,384
Long-term loans (current portion included)	8,500,000	-	8,500,000	-	8,500,000

As of December 31, 2019

Items	Fair value	Fair value measurements during reporting period using			Carrying amount
		Level 1	Level 2	Level 3	
Bonds payables (current portion included)	\$39,571,920	\$21,347,047	\$18,224,873	\$-	\$38,781,416
Long-term loans (current portion included)	4,400,000	-	4,400,000	-	4,400,000

(8) Significant financial assets and liabilities denominated in foreign currencies

The following information was summarized by the foreign currencies other than the functional currency of the Company. The exchange rates disclosed were used to translate the foreign currencies into the functional currency. The significant financial assets and liabilities denominated in foreign currencies are as follows:

	As of December 31,				
	2020		2019		
	Foreign Currency (thousand)	Exchange Rate	Foreign Currency (thousand)	Exchange Rate	
Financial Assets					
Monetary items					
USD:NTD	\$629,508	28.43	\$17,896,912	\$564,331	30.03
SGD:USD	48,101	0.7559	1,033,694	66,197	0.7419
Non-Monetary items					
USD:NTD	47,868	28.43	1,360,874	37,542	30.03
Financial Liabilities					
Monetary items					
USD:NTD	235,896	28.53	6,730,102	216,611	30.13
SGD:USD	87,190	0.7596	1,893,220	82,301	0.7454
RMB:NTD (Note C)	4,710,181	4.405	20,748,348	4,623,788	4.346

Note A : The foreign currency transactions mentioned above are expressed in terms of the amount before elimination.

Note B : Please refer to the parent company only statements of comprehensive income for the total of realized and unrealized foreign exchange gain and loss. Since there were varieties of foreign currency transactions and functional currencies within the subsidiaries of the Company, the Company was unable to disclose foreign exchange gain (loss) towards each foreign currency with significant impact.

Note C : Please refer to Note 9(4) for more details on other financial liabilities-noncurrent.

(9) Capital management

The primary objective of the Company's capital management is to ensure that it maintains a strong credit rating and healthy capital ratios to support its business and maximize the stockholders' value. The Company also ensures its ability to operate continuously to provide returns to stockholders and the interests of other related parties, while maintaining the optimal capital structure to reduce costs of capital.

e. Acquisition of individual real estate with amount exceeding the lower of NT\$300 million or 20 percent of the capital stock for the year ended December 31, 2020: Please refer to Attachment 5.

f. Disposal of individual real estate with amount exceeding the lower of NT\$300 million or 20 percent of the capital stock for the year ended December 31, 2020: Please refer to Attachment 6.

g. Related party transactions for purchases and sales amounts exceeding the lower of NT\$100 million or 20 percent of the capital stock for the year ended December 31, 2020: Please refer to Attachment 7.

h. Receivables from related parties with amounts exceeding the lower of NT\$100 million or 20 percent of capital stock as of December 31, 2020: Please refer to Attachment 8.

i. Names, locations and related information of investees as of December 31, 2020 (excluding investment in Mainland China): Please refer to Attachment 9.

j. Financial instruments and derivative transactions: Please refer to Note 12.

k. Information of major shareholders as of December 31, 2020: Please refer to Attachment 11.

(2) Investment in Mainland China

a. Investee company name, main businesses and products, total amount of capital, method of investment, accumulated inflow and outflow of investments from Taiwan, net income (loss) of investee company, percentage of ownership, investment income (loss), carrying amount of investments, cumulated inward remittance of earnings and limits on investment in Mainland China: Please refer to Attachment 10.

b. Directly or indirectly significant transactions through third regions with the investees in Mainland China, including price, payment terms, unrealized gain or loss, and other events with significant effects on the operating results and financial condition: Please refer to Attachment 1, Attachment 2, Attachment 7 and Attachment 8.

14. OPERATING SEGMENT INFORMATION

In accordance with Article 22 of the Regulations, the Company is not required to prepare operating segment information for the parent company only financial statements. Please refer to the consolidated financial statements of United Microelectronics Corporation and subsidiaries for operating segment information.

To maintain or adjust the capital structure, the Company may adjust the dividend payment to stockholders, return capital to stockholders, issue new shares or dispose assets to redeem liabilities.

Similar to its peers, the Company monitors its capital based on debt to capital ratio. The ratio is calculated as the Company's net debt divided by its total capital. The net debt is derived by taking the total liabilities on the balance sheets minus cash and cash equivalents. The total capital consists of total equity (including capital, additional paid-in capital, retained earnings and other components of equity) plus net debt.

The Company's strategy, which is unchanged for the reporting periods, is to maintain a reasonable ratio in order to raise capital with reasonable cost. The debt to capital ratios as of December 31, 2020 and 2019 were as follows:

	As of December 31,	
	2020	2019
Total liabilities	\$83,238,320	\$95,946,607
Less: Cash and cash equivalents	(69,049,896)	(66,534,836)
Net debt	14,188,424	29,411,771
Total equity	235,659,746	206,804,357
Total capital	\$249,848,170	\$236,216,128
Debt to capital ratios	5.68%	12.45%

13. ADDITIONAL DISCLOSURES

(1) The following are additional disclosures for the Company and its affiliates as required by the R.O.C. Securities and Futures Bureau:

a. Financing provided to others for the year ended December 31, 2020: Please refer to Attachment 1.

b. Endorsement/Guarantee provided to others for the year ended December 31, 2020: Please refer to Attachment 2.

c. Securities held as of December 31, 2020 (excluding subsidiaries, associates and joint venture): Please refer to Attachment 3.

d. Individual securities acquired or disposed of with accumulated amount exceeding the lower of NT\$300 million or 20 percent of the capital stock for the year ended December 31, 2020: Please refer to Attachment 4.

ATTACHMENT 1 (Financing provided to others for the year ended December 31, 2020)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

No. (Note 1)	Lender	Counter-party	Financial statement account	Related Party	Maximum balance for the period	Ending balance	Actual amount provided	Interest rate	Nature of financing	Amount of sales to counter-party	Reason for financing	Loss allowance	Collateral		Limit of total financing amount (Note2)	
													Item	Value		
0	UNITED MICROELECTRONICS CORPORATION	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Other receivables - related parties	Yes	\$12,793,500	\$10,519,100	\$-	0.90013%-2.56%	The need for short-term financing	\$-	Business turnover	\$-	None	\$-	\$23,565,975	\$94,263,898

Note 1: The parent company and its subsidiaries are coded as follows:

(i) The parent company is coded "0".

(ii) The subsidiaries are coded consecutively beginning from "1" in the order presented in the table above.

Note 2: Limit of financing amount for individual counter-party shall not exceed 10% of the lender's net assets value as of the period.

Limit of total financing amount shall not exceed 40% of the Company's net asset value.

ATTACHMENT 2 (Endorsement/Guarantee provided to others for the year ended December 31, 2020)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

No. (Note 1)	Endorser/Guarantor	Company name	Relationship (Note 2)	Limit of guarantee/endorsement amount for receiving party (Note 3)	Maximum balance for the period	Ending balance (Note 5)	Actual amount provided (Note 5)	Amount of collateral guarantee/endorsement	Percentage of accumulated guarantee amount to net assets value from the latest financial statement	Limit of total guarantee/endorsement amount (Note 4)
0	UNITED MICROELECTRONICS CORPORATION	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	2	\$106,046,886	\$19,122,525	\$19,122,525	\$10,350,164	\$-	8.11%	\$106,046,886

HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.

No. (Note 1)	Endorser/Guarantor	Company name	Relationship (Note 2)	Limit of guarantee/endorsement amount for receiving party (Note 6)	Maximum balance for the period	Ending balance (Note 5)	Actual amount provided	Amount of collateral guarantee/endorsement	Percentage of accumulated guarantee amount to net assets value from the latest financial statement	Limit of total guarantee/endorsement amount (Note 6)
1	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	6	\$10,017,788	\$8,361,765	\$6,896,607	\$4,564,118	\$-	30.98%	\$10,017,788

Note 1: The parent company and its subsidiaries are coded as follows:

- The parent company is coded "0".
 - The subsidiaries are coded consecutively beginning from "1" in the order presented in the table above.
- Note 2: According to the "Guidelines Governing the Preparation of Financial Reports by Securities Issuers" issued by the R.O.C. Securities and Futures Bureau, receiving parties should be disclosed as one of the following:
- A company with which it does business.
 - A company in which the public company directly and indirectly holds more than 50% of the voting shares.
 - A company that directly and indirectly holds more than 50% of the voting shares in the public company.
 - A company in which the public company holds, directly or indirectly, 90% or more of the voting shares.
 - A company that fulfills its contractual obligations by providing mutual endorsements/guarantees for another company in the same industry or for joint builders for purposes of undertaking a construction project.
 - A company that all capital contributing shareholders make endorsements/guarantees for their jointly invested company in proportion to their shareholding percentages.
 - Companies in the same industry provide among themselves joint and several security for a performance guarantee of a sales contract for pre-construction homes pursuant to the Consumer Protection Act for each other.

Note 3: The amount of endorsements/guarantees shall not exceed 45% of the net worth of endorser/guarantor; and the ceilings on the amount of endorsements/guarantees for any single entity are as follows:

- The amount of endorsements/guarantees for any single entity shall not exceed 45% of net worth of endorser/guarantor.
- The amount of endorsements/guarantees for a company which endorser/guarantor does business with, except the ceiling rules abovementioned shall not exceed the needed amounts arising from business dealings which is the higher amount of total sales or purchase transactions between endorser/guarantor and the receiving party.

The aggregate amount of endorsements/guarantees that the Company as a whole is permitted to make shall not exceed 45% of the Company's net worth, and the aggregate amount of endorsements/guarantees for any single entity shall not exceed 45% of the Company's net worth.

Note 4: Limit of total guarantee/endorsement amount shall not exceed 45% of UMC's net assets value as of December 31, 2020.

Note 5: On February 22, 2017, the board of directors resolved to guarantee UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.'s syndicated loan from banks including China Development Bank in the amount up to USD 310 million.

On March 7, 2018, the board of directors resolved to increase the endorsement for syndicated loan amounted to USD 152 million, on October 24, 2018, the board of directors resolved to increase the endorsement for syndicated loan amounted to USD 41 million.

On July 24, 2019, the board of directors resolved to decrease the endorsement for syndicated loan amounted to USD 26 million, on December 18, 2019, the board of directors resolved to decrease the endorsement for syndicated loan amounted to USD 13 million.

On July 29, 2020, the board of directors resolved to decrease the endorsement for syndicated loan amounted to USD 32 million and to increase the endorsement for short-term loans agreement amounted to CNY 900 million.

On October 29, 2020, the board of directors resolved to decrease the endorsement for syndicated loan amounted to USD 32 million.

On December 16, 2020, the board of directors resolved to decrease the endorsement for syndicated loan amounted to USD 29 million,

to decrease the endorsement for short-term loans agreement amounted to CNY 900 million and to increase the endorsement for loans agreement amounted to CNY 1.97 billion.

Total endorsement amount is up to USD 371 million and CNY 1.97 billion. As of December 31, 2020, actual amount provided was NT\$10.35 billion.

Note 6: Limit of total endorsed/guaranteed amount shall not exceed 45% of HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.'s net assets value as of December 31, 2020.

The amount of endorsements/guarantees for any single entity shall not exceed 45% of net worth of HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.'s net assets value as of December 31, 2020.

The aggregate amount of endorsements/guarantees that the Company as a whole is permitted to make shall not exceed 45% of the Company's net worth, and the aggregate amount of

endorsements/guarantees for any single entity shall not exceed 45% of the Company's net worth.

ATTACHMENT 3 (Securities held as of December 31, 2020) (Excluding subsidiaries, associates and joint ventures)
 (Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Fund	MILLERFUL NO.1 REAL ESTATE INVESTMENT TRUST	-	Financial assets at fair value through profit or loss, current	18,000	\$189,720	1.70	\$189,720
Stock	HUT 8 MINING CORP.	-	Financial assets at fair value through profit or loss, current	1,208	93,873	1.25	93,873
Stock	PIXART IMAGING, INC.	-	Financial assets at fair value through profit or loss, current	1,600	307,200	1.13	307,200
Stock	PHISON ELECTRONICS CORP.	-	Financial assets at fair value through profit or loss, current	586	194,845	0.30	194,845
Stock	KING YUAN ELECTRONICS CO., LTD.	-	Financial assets at fair value through profit or loss, current	2,675	92,956	0.22	92,956
Fund	RED ARC GLOBAL INVESTMENTS (IRELAND) ICAV TERM LIQUIDITY FUND	-	Financial assets at fair value through profit or loss, current	57	170,740	0.21	170,740
Stock	PIXTECH, INC.	-	Financial assets at fair value through profit or loss, noncurrent	9,883	-	17.63	-
Stock	UNITED FU SHEN CHEN TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	17,511	-	15.75	-
Stock	HOLTEK SEMICONDUCTOR INC.	-	Financial assets at fair value through profit or loss, noncurrent	22,144	1,607,673	9.79	1,607,673
Stock	OCTTASIA INVESTMENT HOLDING INC.	-	Financial assets at fair value through profit or loss, noncurrent	6,692	468,012	9.29	468,012
Stock	UNITED INDUSTRIAL GASES CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	16,680	1,445,629	7.66	1,445,629
Stock	AMIC TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	5,627	-	4.71	-
Stock	SUBTRON TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	12,521	185,307	4.29	185,307
Stock	KING YUAN ELECTRONICS CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	20,483	711,774	1.68	711,774
Stock	EPSTAR CORP.	-	Financial assets at fair value through profit or loss, noncurrent	10,715	443,601	0.98	443,601
Stock	TOPOINT TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,184	32,728	0.83	32,728
Stock	PROMOS TECHNOLOGIES INC.	-	Financial assets at fair value through profit or loss, noncurrent	324	-	0.72	-
Stock-Preferred stock	TONBU, INC.	-	Financial assets at fair value through profit or loss, noncurrent	938	-	-	-
Stock-Preferred stock	AETAS TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,166	-	-	-
Stock-Preferred stock	TA SHEE GOLF & COUNTRY CLUB	-	Financial assets at fair value through profit or loss, noncurrent	0	20,000	-	20,000
Stock	SILICON INTEGRATED SYSTEMS CORP.	The Company's director	Financial assets at fair value through other comprehensive income, noncurrent	119,979	2,039,645	19.02	2,039,645
Stock	UNIMICRON HOLDING LIMITED	Associate	Financial assets at fair value through other comprehensive income, noncurrent	20,000	722,122	12.67	722,122
Stock	ITE TECH INC.	-	Financial assets at fair value through other comprehensive income, noncurrent	13,960	950,674	8.67	950,674
Stock	NOVATEK MICROELECTRONICS CORP.	-	Financial assets at fair value through other comprehensive income, noncurrent	16,445	6,068,053	2.70	6,068,053
Stock-Preferred stock	MTIC HOLDINGS PTE. LTD.	Associate	Financial assets at fair value through other comprehensive income, noncurrent	12,000	170,145	-	170,145

ATTACHMENT 3 (Securities held as of December 31, 2020) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

FORTUNE VENTURE CAPITAL CORP.

Type of securities	Name of securities	Relationship	December 31, 2020				Shares as collateral (thousand)
			Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	
Stock	DARCHUN VENTURE CORP.	-	1,514	\$2,090	19.65	\$2,090	None
Stock	SOLARGATE TECHNOLOGY CORP.	-	957	-	15.94	-	None
Fund	TRENDFORCE CAPITAL FUND SPC-TRENDFORCE CAPITAL FUND LSP	-	15	55,571	15.06	55,571	None
Stock	TRONC-E CO., LTD.	-	1,800	-	14.49	-	None
Stock	CLIENTRON CORP.	-	8,428	145,803	13.25	145,803	None
Stock	CENTERA PHOTONICS INC.	-	3,750	29,325	11.69	29,325	None
Stock	EVERGLORY RESOURCE TECHNOLOGY CO., LTD.	-	2,500	19,625	10.23	19,625	None
Stock	ADVANCE MATERIALS CORP.	-	10,719	54,237	9.12	54,237	None
Stock	MONTJADE ENGINEERING CO., LTD.	-	1,800	13,644	8.18	13,644	None
Stock	EXCELSIUS MEDICAL CO., LTD.	-	1,500	42,000	7.50	42,000	None
Stock	TAIWAN REDEYE BIOMEDIAL INC.	-	445	20,025	7.43	20,025	None
Stock	NEW SMART TECHNOLOGY CO., LTD.	-	900	9,180	7.29	9,180	None
Stock	WIN WIN PRECISION TECHNOLOGY CO., LTD.	-	3,150	68,355	6.93	68,355	None
Stock	RISELINK VENTURE CAPITAL CORP.	-	11	1,616	6.67	1,616	None
Stock	LICO TECHNOLOGY CORP.	-	6,609	-	5.32	-	None
Stock	AMPAK TECHNOLOGY INC.	-	3,000	203,400	4.98	203,400	None
Stock	ACT GENOMICS HOLDINGS CO., LTD.	-	4,600	152,487	4.74	152,487	None
Stock	EMPASS TECHNOLOGY INC.	-	300	6,621	4.53	6,621	None
Stock	MERIDIGEN BIOTECH CO., LTD.	-	3,838	-	4.20	-	None
Stock	TAIWAN AULISA MEDICAL DEVICES TECHNOLOGIES, INC.	-	1,114	50,139	4.12	50,139	None
Stock	EXCELLENCE OPTOELECTRONICS INC.	-	6,374	207,470	3.72	207,470	None
Stock	SOLID STATE SYSTEM CO., LTD.	-	2,400	112,080	3.71	112,080	None
Stock	SUBTRON TECHNOLOGY CO., LTD.	-	10,059	148,870	3.45	148,870	None
Stock	ANIMATION TECHNOLOGIES INC.	-	265	-	3.16	-	None
Stock	TOPOINT TECHNOLOGY CO., LTD.	-	4,416	122,107	3.11	122,107	None
Fund	TRANSLINK CAPITAL PARTNERS IV, L.P.	-	-	106,583	2.96	106,583	None
Stock	BRIGHT SHELAND INTERNATIONAL CO., LTD.	-	1,200	38,400	2.87	38,400	None

ATTACHMENT 3 (Securities held as of December 31, 2020) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

FORTUNE VENTURE CAPITAL CORP.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Stock	TAIWAN SEMICONDUCTOR CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	6,741	\$373,856	2.70	\$373,856
Stock	CHITEC TECHNOLOGY CORP., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	627	15,518	2.15	15,518
Fund	VERTEX V (C.I.) FUND L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	73,008	2.07	73,008
Stock	FORMOSA PHARMACEUTICALS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,500	26,190	2.06	26,190
Stock	M3 TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	694	77,034	1.89	77,034
Stock	YUEN FOONG YU CONSUMER PRODUCTS CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	4,000	185,000	1.63	185,000
Stock	ACER E-ENABLING SERVICE BUSINESS INC.	-	Financial assets at fair value through profit or loss, noncurrent	550	23,650	1.51	23,650
Stock	LINTES TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	615	78,412	1.08	78,412
Stock	WALTOP INTERNATIONAL CORP.	-	Financial assets at fair value through profit or loss, noncurrent	131	416	1.07	416
Stock	CRYSTALWISE TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	888	30,063	1.02	30,063
Stock	POWERTEC ELECTROCHEMICAL CORP (formerly POWERTEC ENERGY CORP.)	-	Financial assets at fair value through profit or loss, noncurrent	9,930	-	0.70	-
Stock	TAIWANI PHARMACEUTICALS CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	514	6,862	0.68	6,862
Stock	NORATECH PHARMACEUTICALS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,000	7,480	0.63	7,480
Stock	TIGERAIR TAIWAN CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,300	39,715	0.46	39,715
Stock	SOLAR APPLIED MATERIALS TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	200	8,700	0.04	8,700
Stock	FORTEMEDIA, INC.	-	Financial assets at fair value through profit or loss, noncurrent	21	58	0.02	58
Stock-Preferred Stock	EIOULE INTERNATIONAL LIMITED	-	Financial assets at fair value through profit or loss, noncurrent	23,909	149,433	-	149,433
Stock-Preferred Stock	FLOADIA CORP.	-	Financial assets at fair value through profit or loss, noncurrent	2	114,811	-	114,811
Stock-Preferred Stock	CEREBREX, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1	-	-	-
Stock-Preferred Stock	FORTEMEDIA, INC.	-	Financial assets at fair value through profit or loss, noncurrent	311	3,476	-	3,476
Stock-Preferred Stock	ACEPODIA, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,449	27,594	-	27,594
Stock-Preferred Stock	BRAVOTEK CORP.	-	Financial assets at fair value through profit or loss, noncurrent	2,250	56,291	-	56,291
Stock-Preferred Stock	GEAR RADIO LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,400	49,326	-	49,326
Convertible bonds	YEONG GUAN ENERGY TECHNOLOGY GROUP CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	100	10,750	-	10,750
Convertible bonds	IBASE TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	60	6,357	-	6,357
Convertible bonds	TEAM GROUP INC.	-	Financial assets at fair value through profit or loss, noncurrent	379	47,451	-	47,451
Convertible bonds	PCHOME ONLINE INC.	-	Financial assets at fair value through profit or loss, noncurrent	455	49,822	-	49,822
Convertible bonds	CHANG WAH ELECTROMATERIALS INC.	-	Financial assets at fair value through profit or loss, noncurrent	250	32,125	-	32,125

ATTACHMENT 3 (Securities held as of December 31, 2020) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

FORTUNE VENTURE CAPITAL CORP.

		December 31, 2020						
Type of securities	Name of securities	Relationship	Financial statement account	Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
Convertible bonds	BRIGHT SHELAND INTERNATIONAL CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	250	\$24,308	-	\$24,308	None
Stock	SHIN-ETSU HANDOTAI TAIWAN CO., LTD.	-	Financial assets at fair value through other comprehensive income, noncurrent	10,500	575,505	7.00	575,505	None
Stock	UNITED MICROELECTRONICS CORP.	Parent company	Financial assets at fair value through other comprehensive income, noncurrent	16,079	758,112	0.13	758,112	None

TLC CAPITAL CO., LTD.

		December 31, 2020						
Type of securities	Name of securities	Relationship	Financial statement account	Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
Convertible bonds	EIOULE INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, current	-	\$149,997	-	\$149,997	None
Fund	EVERY CAPITAL ASIA FUND, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	181,859	18.18	181,859	None
Fund	EVERY CAPITAL ASIA FUND II, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	80,320	16.13	80,320	None
Stock	BEAUTY ESSENTIALS INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	150,500	59,902	13.99	59,902	None
Fund	OAK HILL OPPORTUNITIES FUND, SEGREGATED PORTFOLIO	-	Financial assets at fair value through profit or loss, noncurrent	13	326,200	13.00	326,200	None
Stock	WINKING ENTERTAINMENT LTD.	-	Financial assets at fair value through profit or loss, noncurrent	6,433	56,692	10.99	56,692	None
Stock	EVERGLORY RESOURCE TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,200	9,420	4.91	9,420	None
Stock	ADVANCE MATERIALS CORP.	-	Financial assets at fair value through profit or loss, noncurrent	5,435	27,500	4.62	27,500	None
Fund	TRANSLINK CAPITAL PARTNERS III, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	164,944	4.24	164,944	None
Stock	WELLYSUN INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,000	10,210	3.27	10,210	None
Stock	SUNDIA MEDITECH GROUP	-	Financial assets at fair value through profit or loss, noncurrent	117	-	3.20	-	None
Fund	H&QAP GREATER CHINA GROWTH FUND, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	93	2.67	93	None
Stock	EXCELLENCE OPTOELECTRONICS INC.	-	Financial assets at fair value through profit or loss, noncurrent	3,183	103,610	1.86	103,610	None
Stock	HANDA PHARMACEUTICALS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,000	24,400	0.86	24,400	None
Stock	SIMPLIO TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,422	497,869	0.77	497,869	None
Stock	TXC CORP.	-	Financial assets at fair value through profit or loss, noncurrent	1,978	148,152	0.64	148,152	None
Stock	LINTESTECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	365	46,537	0.64	46,537	None
Stock	POWTEC ELECTROCHEMICAL CORP. (formerly POWERTEC ENERGY CORP.)	-	Financial assets at fair value through profit or loss, noncurrent	6,470	-	0.46	-	None
Stock	YUEN FOONG YU CONSUMER PRODUCTS CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,000	46,250	0.41	46,250	None
Stock	EVERGREEN STEEL CORP.	-	Financial assets at fair value through profit or loss, noncurrent	1,000	46,250	0.25	46,250	None

ATTACHMENT 3 (Securities held as of December 31, 2020) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

TLC CAPITAL CO., LTD.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Stock	VALUE VALVES CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	40	\$4,100	0.10	\$4,100
Stock	ADVANCED ENERGY SOLUTION HOLDING CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	49	4,069	0.08	4,069
Convertible bonds	TECHCENTRAL INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	99	9,613	-	9,613
Convertible bonds	CHANG WAH ELECTROMATERIALS INC.	-	Financial assets at fair value through profit or loss, noncurrent	120	15,420	-	15,420
Capital-Preferred stock	GUANGXI CHIPBETTER MICROELECTRONICS INC.	-	Financial assets at fair value through profit or loss, noncurrent	672	59,101	-	59,101
Stock-Preferred stock	YOUJIA GROUP LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,685	2,636	-	2,636
Stock-Preferred stock	AL07 LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,377	286,997	-	286,997
Stock-Preferred stock	ADWO MEDIA HOLDINGS LTD.	-	Financial assets at fair value through profit or loss, noncurrent	5,332	-	-	-
Stock-Preferred stock	IMO, INC.	-	Financial assets at fair value through profit or loss, noncurrent	8,519	-	-	-
Stock-Preferred stock	HIGHLANDER FINANCIAL GROUP CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	26,499	-	-	-
Stock-Preferred stock	GAME VIDEO LTD.	-	Financial assets at fair value through profit or loss, noncurrent	279	106,617	-	106,617
Stock-Preferred stock	PLAYNITRIDE INC.	-	Financial assets at fair value through profit or loss, noncurrent	717	85,892	-	85,892
Stock-Preferred stock	EJOULE INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	35,863	224,149	-	224,149
Stock-Preferred stock	TURNING POINT LASERS LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,000	64,589	-	64,589
Stock-Preferred stock	ARTERY TECHNOLOGY CORP.	Associate	Financial assets at fair value through profit or loss, noncurrent	770	99,966	-	99,966
Stock-Preferred stock	JSAB HOLDING LTD.	-	Financial assets at fair value through profit or loss, noncurrent	667	28,430	-	28,430

UMC CAPITAL CORP.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Convertible bonds	CLOUDWORDS, INC.	-	Financial assets at fair value through profit or loss, current	-	USD 190	-	USD 190
Convertible bonds	CNEX LABS, INC.	-	Financial assets at fair value through profit or loss, current	-	USD 335	-	USD 335
Capital	TRANSLINK MANAGEMENT III, L.L.C.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 739	14.33	USD 739
Fund	TRANSLINK CAPITAL PARTNERS III, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 15,686	11.47	USD 15,686
Stock	OCTASIA INVESTMENT HOLDING INC.	-	Financial assets at fair value through profit or loss, noncurrent	7,035	USD 17,306	9.76	USD 17,306
Fund	TRANSLINK CAPITAL PARTNERS IV, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 11,247	8.87	USD 11,247
Stock	ALL-STARS SP IV LTD.	-	Financial assets at fair value through profit or loss, noncurrent	7	USD 6,986	5.03	USD 6,986

ATTACHMENT 3 (Securities held as of December 31, 2020) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

LMC CAPITAL CORP.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020		Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount			
Fund	TRANSLINK CAPITAL PARTNERS II, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	- USD	1,664	4.53	USD 1,664	None
Fund	GROVE VENTURES II, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	- USD	519	3.82	USD 519	None
Fund	SIERRA VENTURES XI, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	- USD	3,924	1.76	USD 3,924	None
Fund	STORM VENTURES FUND V, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	- USD	3,940	1.69	USD 3,940	None
Fund	SIERRA VENTURES XII, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	- USD	562	1.38	USD 562	None
Stock	ACHIEVE MADE INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	80 USD	77	0.46	USD 77	None
Stock-Preferred stock	ACHIEVE MADE INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,644 USD	9,053	-	USD 9,053	None
Stock-Preferred stock	CNEX LABS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	3,920 USD	5,949	-	USD 5,949	None
Stock-Preferred stock	GLYMPSE, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,349 USD	3,538	-	USD 3,538	None
Stock-Preferred stock	ATSCALE, INC.	-	Financial assets at fair value through profit or loss, noncurrent	8,520 USD	7,243	-	USD 7,243	None
Stock-Preferred stock	SENSIFREE LTD.	-	Financial assets at fair value through profit or loss, noncurrent	614 USD	978	-	USD 978	None
Stock-Preferred stock	APPIER HOLDINGS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	64 USD	3,329	-	USD 3,329	None
Stock-Preferred stock	DCARD HOLDINGS LTD.	-	Financial assets at fair value through profit or loss, noncurrent	30,075 USD	6,131	-	USD 6,131	None
Stock-Preferred stock	NEXTINPUT, INC.	-	Financial assets at fair value through profit or loss, noncurrent	3,866 USD	1,400	-	USD 1,400	None
Stock-Preferred stock	GCT SEMICONDUCTOR, INC.	-	Financial assets at fair value through profit or loss, noncurrent	175 USD	166	-	USD 166	None
Stock-Preferred stock	FORTEMEDIA, INC.	-	Financial assets at fair value through profit or loss, noncurrent	12,241 USD	8,623	-	USD 8,623	None
Stock-Preferred stock	SIFOTONICS TECHNOLOGIES CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3,500 USD	9,222	-	USD 9,222	None
Stock-Preferred stock	NEVO ENERGY, INC.	-	Financial assets at fair value through profit or loss, noncurrent	4,980	-	-	-	None
Stock-Preferred stock	NEXENTA SYSTEMS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	6,555	-	-	-	None
Stock-Preferred stock	CLOUDWORDS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	9,461 USD	5,006	-	USD 5,006	None
Stock-Preferred stock	EAST VISION TECHNOLOGY LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,770	-	-	-	None
Stock-Preferred stock	RENIAC, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,287 USD	2,266	-	USD 2,266	None
Stock-Preferred stock	BLUESPACE-AI, INC.	-	Financial assets at fair value through profit or loss, noncurrent	174 USD	200	-	USD 200	None
Stock-Preferred stock	REED SEMICONDUCTOR CORP.	-	Financial assets at fair value through profit or loss, noncurrent	3,352 USD	1,006	-	USD 1,006	None

ATTACHMENT 3 (Securities held as of December 31, 2020) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UMC CAPITAL CORP.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Stock-Preferred stock	A.A.A TARANIS VISUAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	4	USD 3,414	-	3,414
Convertible bonds	GLYMPSE, INC.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 1,808	-	1,808

TERA ENERGY DEVELOPMENT CO., LTD.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Stock	TIAN TAI PHOTOELECTRICITY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	375	USD 55,407	1.18	55,407

SINO PARAGON LIMITED

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Fund	SPARKLABS GLOBAL VENTURES FUND I, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	\$100,364	11.13	\$100,364
Fund	SPARKLABS KOREA FUND II, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	39,320	5.00	39,320

UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2020			Shares as collateral (thousand)
				Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	
Fund	LANHOR FUND	-	Financial assets at fair value through profit or loss, noncurrent	-	RMB 29,949	9.71	29,949

ATTACHMENT 4 (Individual securities acquired or disposed of with accumulated amount exceeding the lower of NT\$300 million or 20 percent of the capital stock for the year ended December 31, 2020)
 (Amount in thousand; Currency denomination in NTD or in foreign currencies)

Type of securities	Name of the securities	Financial statement account	Counter-party	Relationship	Beginning balance		Addition		Disposal		Ending balance	
					Units (thousand)/ bonds/ shares (thousand)	Amount	Units (thousand)/ bonds/ shares (thousand)	Amount	Units (thousand)/ bonds/ shares (thousand)	Amount	Units (thousand)/ bonds/ shares (thousand)	Amount
None												

ATTACHMENT 5 (Acquisition of individual real estate with amount exceeding the lower of NT\$300 million or 20 percent of the capital stock for the year ended December 31, 2020)
 (Amount in thousand; Currency denomination in NTD or in foreign currencies)

Name of properties	Transaction date	Transaction amount	Payment status	Counter-party	Relationship	Where counter-party is a related party, details of prior transactions			
						Former holder of property	Relationship between former holder and acquirer of property	Date of transaction	Transaction amount

None

ATTACHMENT 6 (Disposal of individual real estate with amount exceeding the lower of NT\$300 million or 20 percent of the capital stock for the year ended December 31, 2020)
 (Amount in thousand; Currency denomination in NTD or in foreign currencies)

NEXPOWER TECHNOLOGY CORP.

Names of properties	Transaction date	Date of original acquisition	Carrying amount	Transaction amount	Status of proceeds collection	Gain (Loss) from disposal	Counter-party	Relationship	Reason of disposal	Price reference	Other commitments
Construction plant and its facility equipment	June 16, 2020	February 1, 2008-June 1, 2017	\$601,042	\$1,766,666	Received	\$1,081,497	GENERAL INTERFACE SOLUTION LIMITED	None	In order to improve the company's operations and reduce the fixed	The valuation report	None

ATTACHMENT 7 (Related party transactions for purchases and sales amounts exceeding the lower of NT\$100 million or 20 percent of capital stock for the year ended December 31, 2020)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

Counter-party	Relationship	Transactions			Details of non-arm's length transaction			Notes and accounts receivable (payable)		
		Purchases (Sales)	Amount	Percentage of total purchases (sales)	Term	Unit price	Term	Balance	Percentage of total receivables (payable)	Note
UMC GROUP (USA)	Subsidiary	Sales	\$49,357,981	36 %	Net 60 days	N/A	N/A	\$5,388,172	27 %	
FARADAY TECHNOLOGY CORPORATION	Associate	Sales	1,225,941	1 %	Month-end 60 days	N/A	N/A	116,415	1 %	
UMC GROUP JAPAN	Subsidiary	Sales	1,220,419	1 %	Net 60 days	N/A	N/A	-	0 %	
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Subsidiary	Sales	1,183,180	1 %	Net 30 days	N/A	N/A	24,831	0 %	

UMC GROUP (USA)

Counter-party	Relationship	Transactions			Details of non-arm's length transaction			Notes and accounts receivable (payable)		
		Purchases (Sales)	Amount	Percentage of total purchases (sales)	Term	Unit price	Term	Balance	Percentage of total receivables (payable)	Note
UNITED MICROELECTRONICS CORPORATION	Parent company	Purchases	1,616,198	95 %	Net 60 days	N/A	N/A	190,038	88 %	
UNITED SEMICONDUCTOR JAPAN CO., LTD.	Associate	Purchases	43,335	3 %	Net 60 days	N/A	N/A	16,072	7 %	
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Associate	Purchases	33,546	2 %	Net 60 days	N/A	N/A	8,815	4 %	
HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	Associate	Purchases	4,660	0 %	Net 60 days	N/A	N/A	1,164	1 %	

UMC GROUP JAPAN

Counter-party	Relationship	Transactions			Details of non-arm's length transaction			Notes and accounts receivable (payable)		
		Purchases (Sales)	Amount	Percentage of total purchases (sales)	Term	Unit price	Term	Balance	Percentage of total receivables (payable)	Note
UNITED MICROELECTRONICS CORPORATION	Parent company	Purchases	3,987,383	91 %	Net 60 days	N/A	N/A	-	-	
HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	Associate	Purchases	370,700	9 %	Net 60 days	N/A	N/A	-	-	

HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.

Counter-party	Relationship	Transactions			Details of non-arm's length transaction			Notes and accounts receivable (payable)		
		Purchases (Sales)	Amount	Percentage of total purchases (sales)	Term	Unit price	Term	Balance	Percentage of total receivables (payable)	Note
FARADAY TECHNOLOGY CORPORATION	Associate	Sales	139,051	5 %	Net 45 days	N/A	N/A	109	0 %	
UMC GROUP (USA)	Associate	Sales	32,165	1 %	Net 60 days	N/A	N/A	7,593	2 %	
UMC GROUP JAPAN	Associate	Sales	24,750	1 %	Net 60 days	N/A	N/A	-	-	

UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.

Counter-party	Relationship	Transactions			Details of non-arm's length transaction			Notes and accounts receivable (payable)		
		Purchases (Sales)	Amount	Percentage of total purchases (sales)	Term	Unit price	Term	Balance	Percentage of total receivables (payable)	Note
UMC GROUP (USA)	Associate	Sales	226,402	7 %	Net 60 days	N/A	N/A	57,427	12 %	
FARADAY TECHNOLOGY CORPORATION	Associate	Sales	35,053	1 %	Net 60 days	N/A	N/A	5,335	1 %	

UNITED SEMICONDUCTOR JAPAN CO., LTD.

Counter-party	Relationship	Transactions			Details of non-arm's length transaction			Notes and accounts receivable (payable)		
		Purchases (Sales)	Amount	Percentage of total purchases (sales)	Term	Unit price	Term	Balance	Percentage of total receivables (payable)	Note
UMC GROUP (USA)	Associate	Sales	5,054,690	9 %	Net 60 days	N/A	N/A	1,663,728	16 %	

ATTACHMENT 8 (Receivables from related parties with amounts exceeding the lower of NT\$100 million or 20 percent of capital stock as of December 31, 2020)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

Counter-party	Relationship	Ending balance			Turnover rate (times)	Overdue receivables			
		Notes receivable	Accounts receivable	Other receivables		Amount	Collection status	Amount received in subsequent period	Loss allowance
UMC GROUP (USA)	Subsidiary	\$-	\$5,388,172	\$-	8.72	\$-	-	\$5,402,791	\$14,619
FARADAY TECHNOLOGY CORP.	Associate	-	116,415	-	12.15	89	Collection in subsequent period	112,226	173

UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.

Counter-party	Relationship	Ending balance			Turnover rate (times)	Overdue receivables			
		Notes receivable	Accounts receivable	Other receivables		Amount	Collection status	Amount received in subsequent period	Loss allowance
UMC GROUP (USA)	Associate	\$-	RMB 57,427	\$-	6.95	\$-	-	RMB 25,611	RMB 92

UNITED SEMICONDUCTOR JAPAN CO., LTD.

Counter-party	Relationship	Ending balance			Turnover rate (times)	Overdue receivables			
		Notes receivable	Accounts receivable	Other receivables		Amount	Collection status	Amount received in subsequent period	Loss allowance
UMC GROUP (USA)	Associate	\$-	JPY 1,663,728	\$-	6.13	\$-	-	JPY 1,663,728	\$-

ATTACHMENT 9 (Names, locations and related information of investee companies as of December 31, 2020) (Not including investment in Mainland China)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

Investee company	Address	Main businesses and products	Initial Investment			Investment as of December 31, 2020				Investment income (loss) recognized	Note
			Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company			
UMC GROUP (USA)	USA	IC Sales	USD 16,438	USD 16,438	16,438	100.00	\$1,722,181	\$66,833	\$66,833		
UNITED MICROELECTRONICS (EUROPE) B.V.	The Netherlands	Marketing support activities	USD 5,421	USD 5,421	9	100.00	135,624	461	461		
UMC CAPITAL CORP.	Cayman Islands	Investment holding	USD 81,500	USD 81,500	71,663	100.00	4,087,620	552,087	553,778		
GREEN EARTH LIMITED	Samoa	Investment holding	USD 977,000	USD 977,000	977,000	100.00	10,166,702	(3,062,542)	(3,062,542)		
TLC CAPITAL CO., LTD.	Taipei City, Taiwan	Venture capital	USD 4,610,000	USD 4,610,000	400,167	100.00	4,566,933	294,622	294,622		
UMC INVESTMENT (SAMOA) LIMITED	Samoa	Investment holding	USD 1,520	USD 1,520	1,520	100.00	39,961	(2,061)	(2,061)		
FORTUNE VENTURE CAPITAL CORP.	Taipei City, Taiwan	Consulting and planning for venture capital	USD 3,440,053	USD 3,440,053	401,734	100.00	5,400,821	741,604	728,678		
UMC KOREA CO., LTD.	Korea	Marketing support activities	KRW 550,000	KRW 550,000	110	100.00	21,834	1,124	1,124		
OMNI GLOBAL LIMITED	Samoa	Investment holding	USD 4,300	USD 4,300	4,300	100.00	585,317	26,487	26,487		
SINO PARAGON LIMITED	Samoa	Investment holding	USD 2,600	USD 2,600	2,600	100.00	142,353	20,513	20,513		
BEST ELITE INTERNATIONAL LIMITED	British Virgin Islands	Investment holding	USD 309,102	USD 309,102	664,966	100.00	22,926,322	2,005,823	2,005,823		
UNITED SEMICONDUCTOR JAPAN CO., LTD.	Japan	Sales and manufacturing of integrated circuits	JPY 64,421,068	JPY 64,421,068	116,247	100.00	17,668,765	154,542	154,542		
WAVETEK MICROELECTRONICS CORPORATION	Hsinchu County, Taiwan	Sales and manufacturing of integrated circuits	USD 1,903,741	USD 1,894,660	148,112	80.75	374,434	68,545	56,019		
MTIC HOLDINGS PTE. LTD.	Singapore	Investment holding	SGD 12,000	SGD 12,000	12,000	45.44	26,966	20,546	4,505		
UNITECH CAPITAL INC.	British Virgin Islands	Investment holding	USD 21,000	USD 21,000	21,000	42.00	823,185	531,925	223,409		
TRIKNIGHT CAPITAL CORPORATION	Taipei City, Taiwan	Investment holding	USD 2,342,800	USD 2,370,000	234,280	40.00	2,488,169	584,345	233,738		
HSUN CHIEH INVESTMENT CO., LTD.	Taipei City, Taiwan	Investment holding	USD 336,241	USD 336,241	364,102	36.49	10,165,563	15,866,872	5,790,187		
YANN YUAN INVESTMENT CO., LTD.	Taipei City, Taiwan	Investment holding	USD 2,300,000	USD 2,300,000	46,000	30.87	6,551,136	453,444	139,989		
FARADAY TECHNOLOGY CORPORATION	Hsinchu City, Taiwan	Design of application-specific integrated circuit	USD 38,918	USD 38,918	34,240	13.78	1,589,448	41,674	5,741		
UNIMICRON TECHNOLOGY CORP.	Taoyuan City, Taiwan	Manufacturing of PCB	USD 2,438,565	USD 2,438,565	196,136	13.36	9,107,377	1,914,492	256,055		
UMC GROUP JAPAN	Japan	IC Sales	JPY -	JPY 60,000	-	-	-	13,400	13,400	Note 1	
NEXPOWER TECHNOLOGY CORP.	Taichung City, Taiwan	Sales and manufacturing of solar power batteries	USD -	USD 5,956,791	-	-	-	1,071,376	511,596	Note 2	

Note 1: As of November 1, 2020, UMC GROUP JAPAN was merged with UNITED SEMICONDUCTOR JAPAN CO., LTD. (USJC) and USJC is the surviving company.

Note 2: NEXPOWER TECHNOLOGY CORP. was dissolved and liquidated on November 11, 2020.

ATTACHMENT 9 (Names, locations and related information of investee companies as of December 31, 2020) (Not including investment in Mainland China)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

FORTUNE VENTURE CAPITAL CORP.

Investee company	Initial Investment			Investment as of December 31, 2020			Investment income (loss) recognized	Note
	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company		
TERA ENERGY DEVELOPMENT CO., LTD.	\$100,752	\$100,752	18,655	100.00	\$62,660	\$(10,586)		
PURIUMFIL INC.	10,000	10,000	1,000	44.45	6,206	(959)		
UNITED LED CORPORATION HONG KONG LIMITED	USD	22,500 USD	22,500	25.14	96,026	(27,428)		
WAVETEK MICROELECTRONICS CORPORATION	8,856	8,856	1,194	0.65	3,954	450		
CLIENTRON CORP.	-	277,508	-	-	-	74,637	Note 1	
NEXPOWER TECHNOLOGY CORP.	-	1,688,630	-	-	-	1,071,376	Note 2	
WINAICO IMMOBILIEN GMBH	-	EUR	-	-	-	-	Note 3	

Note 1: As FORTUNE VENTURE CAPITAL CORP. lost its significant influence in April 2020, the investee was reclassified from investments accounted for under the equity method to financial assets at fair value through profit or loss, noncurrent.

Note 2: NEXPOWER TECHNOLOGY CORP. was dissolved and liquidated on November 11, 2020.

Note 3: WINAICO IMMOBILIEN GMBH was disposed in December 2020.

TLC CAPITAL CO., LTD.

Investee company	Initial Investment			Investment as of December 31, 2020			Investment income (loss) recognized	Note
	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company		
SOARING CAPITAL CORP.	USD	900 USD	900	100.00	\$8,174	\$(2,222)		
HSUN CHIEH CAPITAL CORP.	USD	8,000 USD	8,000	40.00	195,675	22,976		
VSENSE CO., LTD.	95,916	95,916	4,251	23.98	941	(5,884)		
NEXPOWER TECHNOLOGY CORP.	-	888,019	-	-	-	1,071,376	Note	

Note: NEXPOWER TECHNOLOGY CORP. was dissolved and liquidated on November 11, 2020.

UMC CAPITAL CORP.

Investee company	Initial Investment			Investment as of December 31, 2020			Investment income (loss) recognized	Note
	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company		
TRANSLINK CAPITAL PARTNERS I, L.P.	USD	4,036 USD	-	10.38	USD 6,155	USD 4,979	414	
UMC CAPITAL (USA)	-	USD 200	-	-	-	USD (0)	(0)	

Note: In August, 2020, UMC CAPITAL (USA) was dissolved.

TERA ENERGY DEVELOPMENT CO., LTD.

Investee company	Initial Investment			Investment as of December 31, 2020			Investment income (loss) recognized	Note
	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company		
EVERRICH ENERGY INVESTMENT (HK) LIMITED	USD	750 USD	750	100.00	\$41,326	\$(2,281)		
WINAICO IMMOBILIEN GMBH	-	EUR	-	-	-	-	-	

Note: WINAICO IMMOBILIEN GMBH was disposed in December 2020.

ATTACHMENT 9 (Names, locations and related information of investee companies as of December 31, 2020) (Not including investment in Mainland China)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

WAVETEK MICROELECTRONICS CORPORATION

Investee company	Address	Main businesses and products		Initial Investment		Investment as of December 31, 2020		Net income (loss) of investee company	Investment income (loss) recognized	Note
		Investment holding	Investment holding	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)			
WAVETEK MICROELECTRONICS INVESTMENT (SAMOA) LIMITED (SAMOA) LIMITED	Samoa			USD 1,650	USD 1,500	1,650	100.00	\$(3,503)	\$(3,503)	

WAVETEK MICROELECTRONICS INVESTMENT (SAMOA) LIMITED

Investee company	Address	Main businesses and products		Initial Investment		Investment as of December 31, 2020		Net income (loss) of investee company	Investment income (loss) recognized	Note
		Marketing service	Marketing service	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)			
WAVETEK MICROELECTRONICS CORPORATION (USA)	USA			USD 60	USD 60	60	100.00	\$155	\$155	

BEST ELITE INTERNATIONAL LIMITED

Investee company	Address	Main businesses and products		Initial Investment		Investment as of December 31, 2020		Net income (loss) of investee company	Investment income (loss) recognized	Note
		Investment holding	Investment holding	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)			
INFOSHINE TECHNOLOGY LIMITED	British Virgin Islands			USD 354,000	USD 354,000	-	100.00	\$2,014,798	\$2,014,798	

INFOSHINE TECHNOLOGY LIMITED

Investee company	Address	Main businesses and products		Initial Investment		Investment as of December 31, 2020		Net income (loss) of investee company	Investment income (loss) recognized	Note
		Investment holding	Investment holding	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)			
OAKWOOD ASSOCIATES LIMITED	British Virgin Islands			USD 354,000	USD 354,000	-	100.00	\$2,014,798	\$2,014,798	

OMNI GLOBAL LIMITED

Investee company	Address	Main businesses and products		Initial Investment		Investment as of December 31, 2020		Net income (loss) of investee company	Investment income (loss) recognized	Note
		Research & Development	Research & Development	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)			
UNITED MICROTECHNOLOGY CORPORATION (CALIFORNIA)	USA			USD 1,000	USD 1,000	0	100.00	\$1,422	\$1,422	

ECP VITA PTE. LTD.	Singapore	Insurance		USD 9,000	USD 9,000	9,000	100.00	34,369	34,369	
UMC TECHNOLOGY JAPAN CO., LTD.	Japan	Semiconductor manufacturing technology development and consulting services		JPY 35,000	JPY 35,000	4	100.00	(215)	(215)	
UNITED MICROTECHNOLOGY CORPORATION (NEW YORK)	USA	Research & Development		USD -	USD 950	-	-	18	18	Note

Note: In November, 2020, UNITED MICROTECHNOLOGY CORPORATION (NEW YORK) was dissolved.

GREEN EARTH LIMITED

Investee company	Address	Main businesses and products		Initial Investment		Investment as of December 31, 2020		Net income (loss) of investee company	Investment income (loss) recognized	Note
		Investment holding	Investment holding	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)			
UNITED MICROCHIP CORPORATION	Cayman			USD 974,050	USD 974,050	974,050	100.00	\$(3,061,316)	\$(3,061,316)	

ATTACHMENT 10 (Investment in Mainland China as of December 31, 2020)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

Investee company	Main businesses and products	Total amount of paid-in capital	Method of investment (Note 1)	Accumulated outflow of investment from Taiwan as of January 1, 2020	Investment flows			Percentage of ownership	Investment income (loss) recognized (Note 2)	Carrying amount as of December 31, 2020	Accumulated inward remittance of earnings as of December 31, 2020
					Outflow	Inflow	Accumulated outflow of investment from Taiwan as of December 31, 2020				
					Outflow	Inflow	Outflow				
UNITRUTH ADVISOR (SHANGHAI) CO., LTD.	Investment Holding and advisory	\$22,744 (USD 800)	(i) SOARING CAPITAL CORP.	\$22,744 (USD 800)	\$-	\$-	100.00%	\$(2,185) (iii)	\$8,004	\$-	
EVERRICH (SHANDONG) ENERGY CO., LTD.	Solar engineering integrated design services	21,323 (USD 750)	(ii) EVERRICH ENERGY INVESTMENT (HK) LIMITED	21,323 (USD 750)	-	2,332 (USD 750)	100.00%	2,332 (ii)	40,887	124,865 (USD 4,392)	
UNITED LED CORPORATION	Research, manufacturing and sales in LED epitaxial wafers	2,388,120 (USD 84,000)	(ii) UNITED LED CORPORATION HONG KONG LIMITED	575,707 (USD 20,250)	-	575,707 (USD 20,250)	25.14%	(71,152) (RMB (16,338)) (ii)	44,848 (RMB 10,298)	-	
HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	Sales and manufacturing of integrated circuits	13,697,755 (RMB 3,145,294)	(ii) OAKWOOD ASSOCIATES LIMITED	8,787,770 (USD 309,102)	-	8,787,770 (USD 309,102)	99.9985%	2,081,163 (RMB 477,879) (ii)	22,261,414 (RMB 5,111,691)	-	
UNITEDDS SEMICONDUCTOR (SHANDONG) CO., LTD.	Design support of integrated circuits	130,650 (RMB 30,000)	(ii) HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	-	-	66,244 (RMB 15,211)	99.9985%	66,244 (RMB 15,211) (ii)	292,608 (RMB 67,189)	-	
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Sales and manufacturing of integrated circuits	59,653,893 (RMB 13,697,794)	(ii) UNITED MICROCHIP CORPORATION and (iii) HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	27,433,983 (USD 964,966) (Note 5)	-	27,433,983 (USD 964,966) (Notes 5)	67.76%	(4,027,417) (RMB (924,780)) (ii)	14,590,387 (RMB 3,350,261)	-	
Accumulated investment in Mainland China as of December 31, 2020				\$36,841,527 (USD 1,295,868)	\$60,491,023 (USD 2,127,718)	\$141,395,848	Upper limit on investment Commission, MOEA				

Note 1: The methods for engaging in investment in Mainland China include the following:

- (i) Direct investment in Mainland China.
- (ii) Indirectly investment in Mainland China through companies registered in a third region (Please specify the name of the company in third region).
- (iii) Other methods.

Note 2: The investment income (loss) recognized in current period, the investment income (loss) were determined based on the following basis:

- (i) The financial report was audited by an international certified public accounting firm in cooperation with an R.O.C. accounting firm.
- (ii) The financial statements were audited by the auditors of the parent company.
- (iii) Others.

Note 3: Initial investment amounts denominated in foreign currencies are translated into New Taiwan Dollars using the spot rates at the financial report date.

Note 4: The Company indirectly invested in HEJIAN TECHNOLOGY (SUZHOU) CO., LTD. via investment in BEST ELITE INTERNATIONAL LIMITED, an equity investee. The investment has been approved by the Investment Commission, MOEA in the total amount of USD 383,569 thousand. As of December 31, 2020, the amount of investment has been all remitted.

Note 5: The investment to UNITED SEMICONDUCTOR (XIAMEN) CO., LTD. (USCXM) from HEJIAN TECHNOLOGY (SUZHOU) CO., LTD. and indirectly invested in USCXM via investment in GREEN EARTH LIMITED.

The consent to invest in USCXM's investment has been approved by the Investment Commission, MOEA in the total amount of USD 1,722,349 thousand. As of December 31, 2020, the amount of investment USD 357,138 thousand has not yet been remitted.

ATTACHMENT 11 (Information of major shareholders as of December 31, 2020)

UNITED MICROELECTRONICS CORPORATION

Name	Number of shares	Percentage of ownership (%)
JPMorgan Chase Bank, N.A. acting in its capacity as depositary and representative to the holders of ADRs	636,313,225	5.12

The Company and Its Affiliated Enterprises Have Not Experienced Any Financial Difficulties During the Most Recent Year up to the Publication Date.

United Microelectronics Corporation

Representative: Stan Hung



Stan Hung

UMC