United Microelectronics Corporation
2018 Annual Report

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

http://www.umc.com

http://mops.twse.com.tw

TSE Code: 2303

NYSE Symbol: UMC

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Ticker/Search Code: UMC

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UNITED FOR EXCELLENCE

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Letter to Shareholders

Dear Shareholders,

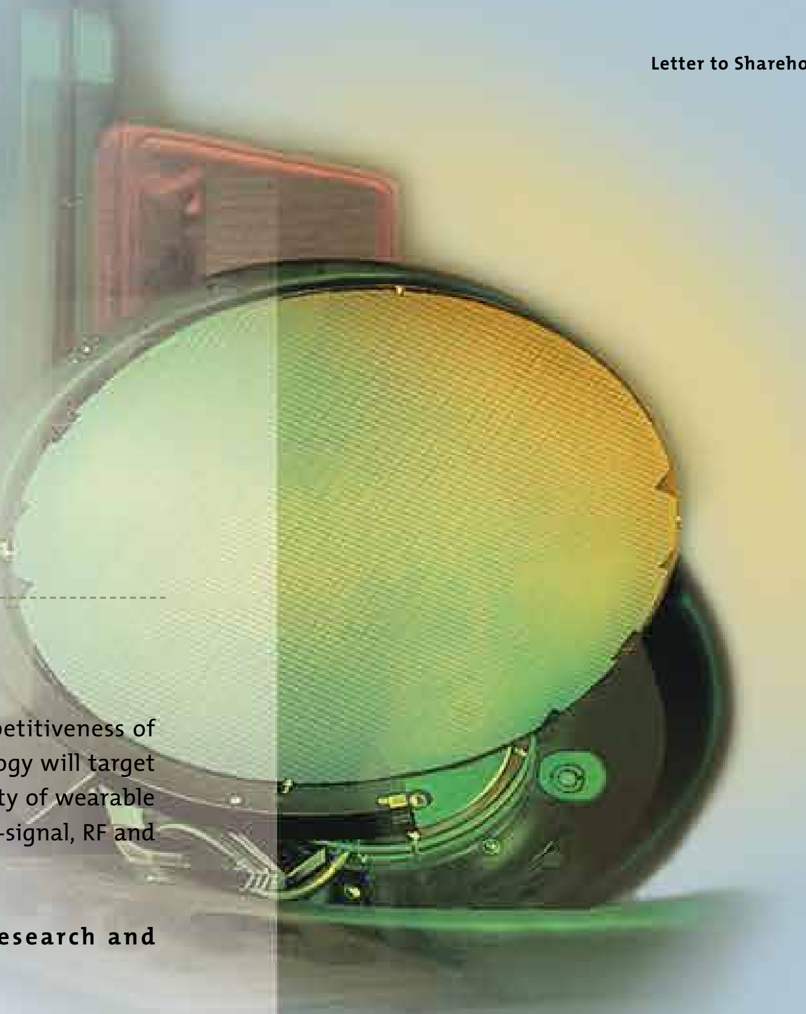
In the decade following the 2008 financial crisis, 2018 can be remembered as one of the more turbulent years. Economic headwinds emerged from US-China trade tensions, which altered the landscape in international commerce as the introduction of tariffs impacted a variety of imported products. Volatility in commodity prices including oil and raw materials compounded the uncertainty, leading to a rapid decline in global economic growth and offsetting a promising start to the first half of the year. Working amid difficult macro conditions, the concerted efforts of UMC's employees continued to create opportunities. Through new breakthroughs in technology development, strategic capacity expansion and unwavering customer service we realized a record high in annual revenue. The foundry segment shipped a total of 7.1 million 8-inch equivalent wafers, 4% more than the previous year. Overall capacity utilization reached 93.1%, which was 1.3% less than the year before. From a consolidated basis, annual revenue totaled NTD 151.25 billion, with a gross margin of 15.1%, and an operating margin of 3.8%. As a result, UMC's net income attributable to the parent was NTD 7.07 billion or an earnings per share of NTD 0.58.

UMC is committed to providing customers with a comprehensive offering of wafer manufacturing solutions while working closely with our partners across the supply chain to focus on technology development and capacity expansion. Future semiconductor applications will be fueled by cloud computing, artificial intelligence (AI), Internet of Things (IoT), 5G communication (5G) and automotive electronics (auto), where growth can be achieved via the diverse offerings in our logic and specialty process technologies. The existing technology nodes on logic and specialty technologies are also the focus of UMC's investment strategy. UMC's 12-inch wafer capacity and process technologies in Taiwan, Singapore and China will be able to serve market requirements for product mix, wafer starts, and manufacturing efficiency to fulfill worldwide demand and help UMC penetrate new markets to enhance our foundry position.

Looking ahead, UMC will continue with our corporate direction of strengthening our financial performance and securing future growth opportunities. The management team will focus on: (1) valuing our customers with a commitment towards customer success; (2) proceeding with a prudent investment approach, focusing on product mix optimization and increasing our market share; (3) continuous operational excellence by elevating quality and productivity; (4) striving to enhance shareholder returns. We will also focus on organizational integration to maximize efficiency and strengthening our core competencies.

Advanced Node Technologies Development

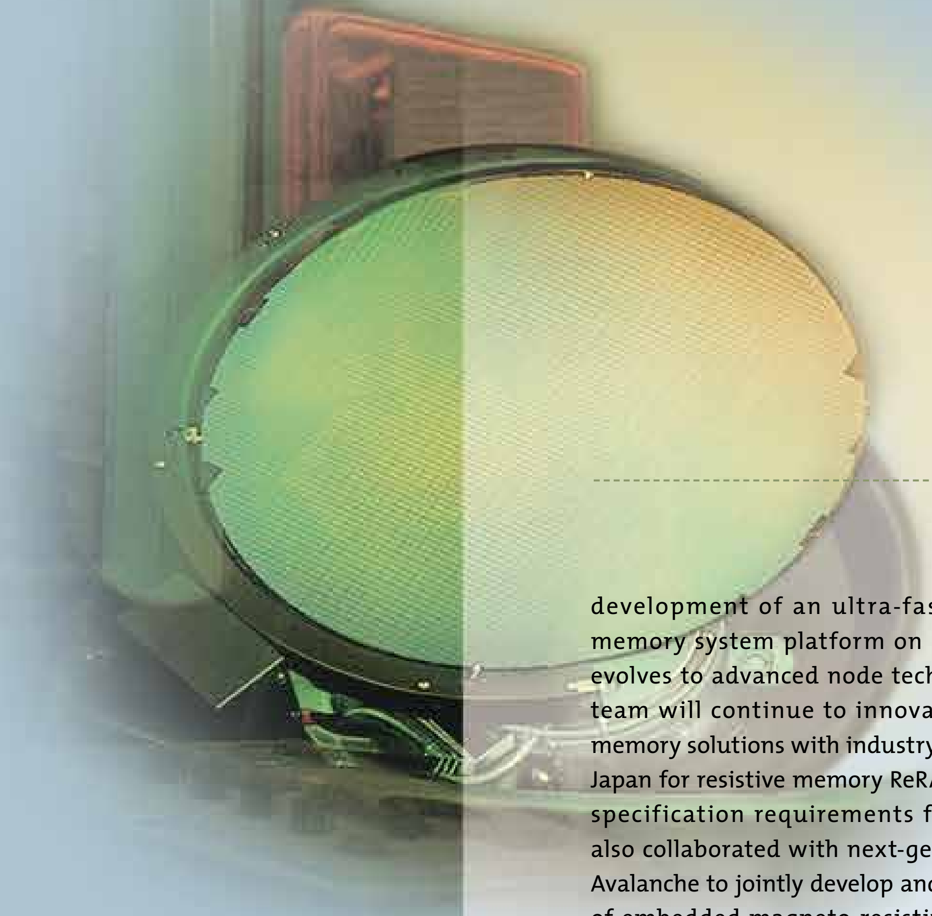
In 2018, UMC spent NTD 13.03 billion on research and development expenses to recruit and develop additional engineering talent. The R&D team helped the company to achieve fruitful results in the development of advanced and specialty technologies. The 14nm FinFET technology developed by UMC has entered mass production, and the yield has reached volume production standards. For 28nm, UMC successfully developed its $28HPC^{U}+$ process technology, and through customer collaboration programs, our 28nm has successfully penetrated the Advanced Driving Assistance System (ADAS) supply chain as part of the automotive electronics market. At the same time, we will cooperate with customers to develop 22nm ultra-low power (uLP)/ ultra-low leakage (uLL) process technology that will feature superior transistor performance and an efficient



cost structure to further enhance the competitiveness of our customers' products. This 22nm technology will target IoT, auto, industrial automation and a variety of wearable products for general-purpose, analog, mixed-signal, RF and other related applications.

UMC Specialty Process Technology Research and Development

In the specialty technologies segment, UMC is the first semiconductor company to introduce 80nm embedded High Voltage (eHV) and Touch and Display Driver Integrated (TDDI) manufacturing technology, which has expanded the company's market share as evidenced by the increasing adoption rate from our customers. In response to the rising mobile demand for high resolution displays in LCD and AMOLED, UMC is also actively developing new 40nm and 28nm high voltage process technologies. Currently, the company's 40nm high voltage products have already entered mass production. In response to the demand from a wide range of power management ICs, UMC offers a variety of ultra-high voltage solutions for power chargers, LED bulbs, power amplifiers, AC-DC converters and motor drives, etc. UMC also started development of a 55nm BCD+NVM technology platform that accommodates green energy needs. In MEMS technology, UMC shipped more than 400 million MEMS microphone products in 2018, while CMOS-MEMS gas sensor ICs also entered volume production. UMC has developed RF SOI process technology with unique substrate characteristics to prevent high frequency distortion and minimize power loss. Currently, 0.13um and 0.11um RF SOI process technologies are widely adopted by smartphone manufacturers and have entered mass production. In flash memory technology, 55nm and 40nm embedded flash microcontrollers (MCU) are in volume production, while 40nm combined with embedded SST super flash (SuperFlash®) memory has entered pilot production, providing customers with faster performance at higher memory densities. In addition, UMC has started



development of an ultra-fast embedded super flash memory system platform on 28nm. As the marketplace evolves to advanced node technologies, our engineering team will continue to innovate and develop new flash memory solutions with industry partners such as Panasonic Japan for resistive memory ReRAM, to meet more stringent specification requirements from customers. UMC has also collaborated with next-generation STT-MRAM leader Avalanche to jointly develop and produce a new generation of embedded magneto-resistive random access memory (eMRAM).

UMC Capital Expenditure/Patent/Intellectual Property Rights

In 2018, UMC's capital expenditure was USD 650 million, mainly for investment in advanced process R&D equipment and capacity expansion at Fab 12A in Tainan, Fab 12X (USCXM) in Xiamen, China and Fab 8N in SuZhou, China. UMC became the first automotive grade IC supplier to be certified ISO 22301 for operation and business continuity management. We have also implemented a comprehensive "automotive service plan" to introduce zero-defect standards to assist customers in meeting automotive grade quality requirements. UMC's automotive business has grown rapidly, and the products we manufacture have been widely adopted by world-renowned car manufacturers in Japan, Europe, Asia, and the United States. Due to the fierce and competitive nature of the auto industry, UMC significantly improved its key technical capabilities and focused on the layout of patents to protect our intellectual property rights as the number of patents granted grew steadily. In 2018, a total of 423 domestic and foreign patents were obtained, including 337 US patents, 56 Republic of China patents, and 30 Chinese patents. The total number of patents granted to UMC overall reached 12,991, which established a strong foundation for our process technology knowledge and intellectual property portfolio. In order to maintain its competitiveness, UMC also significantly increased the quality of key technology patent applications and continued strengthening customer service and competitive advantages to create value in the semi supply chain.

Corporate Governance and Corporate Social Responsibility

Focus, Nurture and Continuity are the core beliefs of UMC to ensure corporate sustainability, corporate governance and corporate social responsibility. UMC's Board of Directors established the "Remuneration Committee," "Audit Committee," "Capital Budget Committee," and "Nomination Committee" to deliver objective performance evaluations to enhance transparency and operational supervision to preserve the best interests of our shareholders. In 2018, in addition to being listed as a "DJSI-World" constituent of the Dow Jones Sustainability Indices (DJSI) for the 11th consecutive year, we have earned the Taiwan Corporate Social Responsibility Award, Taiwan Enterprise Sustainability Report Award, Green Procurement Award, Excellent Safety and Health Unit Award, and Corporate Environmental Award. These honors and affirmations highlight UMC's collective community efforts in corporate social responsibility, and we are highly appreciative of our customers, suppliers and shareholders for their support of UMC. This is the biggest driving force for us to continue on the path of sustainable business operations. UMC has a sound financial structure, a diverse customer base, excellent R&D, world-class manufacturing capabilities, and extensive experience in the semiconductor industry. With the joint efforts of all colleagues, we are committed to implementing the company's established strategy, and we are convinced that we will be able to break through the competitive challenges of the foundry industry, differentiate our competitiveness, and continue to grow our revenue and profit.

I am very grateful to all shareholders for supporting UMC over the years. The management team will continue to strengthen the advantages of UMC and improve its technology, quality and customer service to enhance shareholder value and achieve new corporate milestones.


Chairman: Stan Hung


President: SC Chien


President: Jason Wang

Corporate Profile

Corporate Profile and Date of Establishment

UMC is a leading global semiconductor foundry that provides advanced technologies and manufacturing services for applications spanning every major sector of the IC industry. Founded in 1980 as Taiwan's first semiconductor company, UMC is a foundry leader. UMC's comprehensive foundry solutions enable chip designers to leverage the strength of the company's leading-edge processes, which include 28nm High-K/Metal Gate, 14nm FinFET, mixed signal/RFCMOS, and a wide range of specialty technologies.

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 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 11 wafer fabs located throughout Asia, including three 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 28nm High-K/Metal gate and 14nm FinFET technologies. UMC's second 12-inch fab, Fab 12i, is located in Singapore. This facility is our specialty technologies center that provides highly specialized processes on 12-inch manufacturing to serve a diverse range of product applications. United Semi, located in Xiamen, China, is 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.

Company establishment date: May 22, 1980.

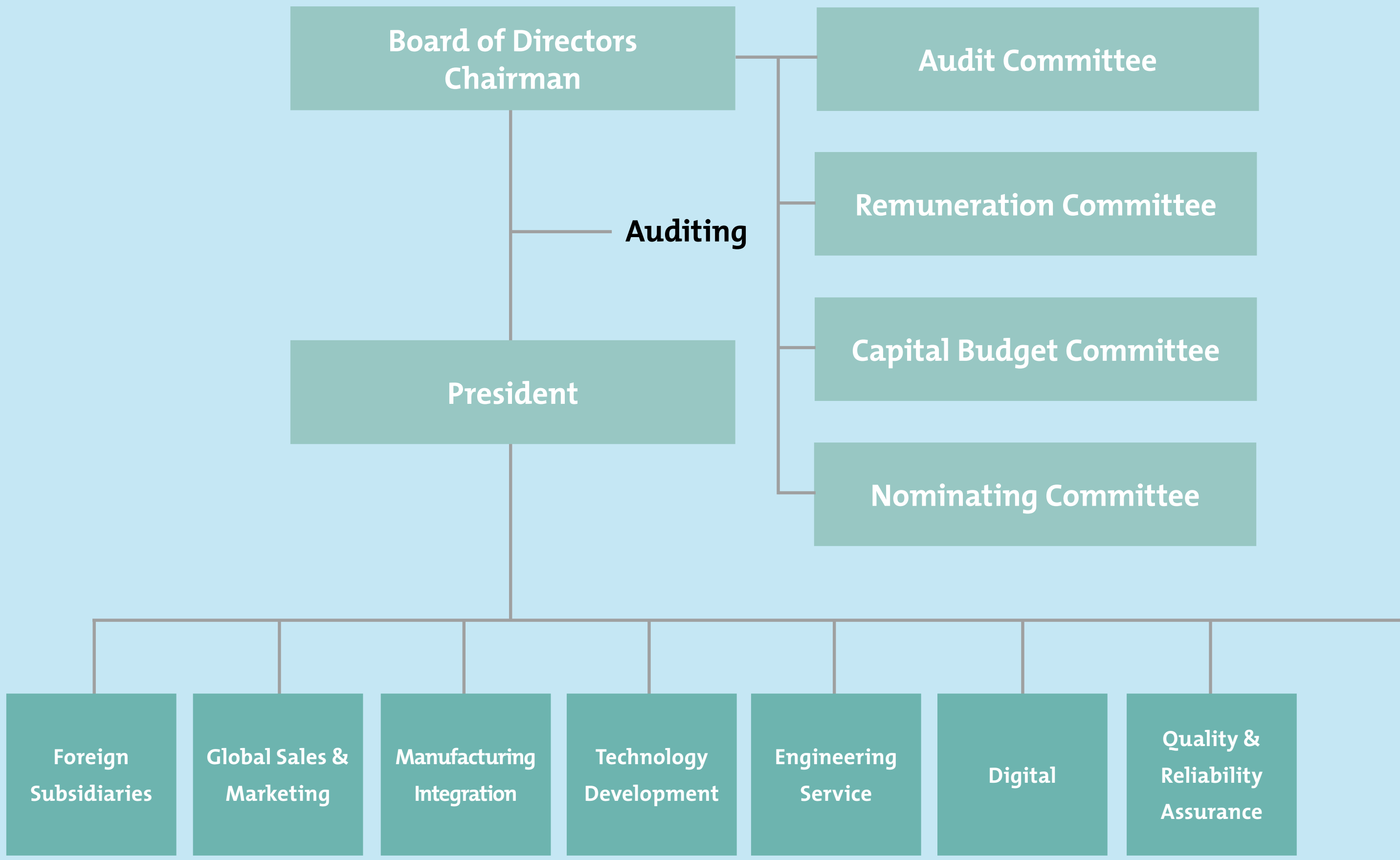
Corporate Milestones

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 starts mass production
January, 1996	0.35µm technology process starts production
October, 1997	0.25µm technology process starts production
April, 1998	Acquires Holtek Semiconductor fab (now known as Fab 8E)
December, 1998	Acquires Nippon Steel Semiconductor Corp. fab (renamed UMCJ in 2001)
March, 1999	0.18µm technology process starts production
November, 1999	Official construction begins 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 0.13µm 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 starts mass production
May, 2004	90nm process is fully verified and starts mass production
July, 2004	UMC acquires 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 exceed 100,000
June, 2006	UMC is 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 Southern Taiwan Science Park
September, 2008	Listed as a constituent stock by Dow Jones Sustainability Indexes
October, 2008	Announces foundry industry's first 28nm SRAMs
April, 2009	Delivers customer ICs produced on its high performance 40nm logic technology
December, 2009	Announces completion of tender offer to UMC Japan
May, 2010	Celebrated 30th Anniversary
December, 2010	12-inch fab Fab 12A Phase 3 begins volume production
October, 2011	28nm process begins 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	Joins Fujitsu's new foundry company
March, 2015	Groundbreaking of United Semi (Xiamen) Fab
November, 2016	Holds grand opening ceremony for new 12-inch fab in Xiamen, China and the fab starts mass production
February, 2017	Enters mass production for 14nm customer ICs
June, 2018	Board approves 100% acquisition of MIFS fab from Fujitsu

Corporate Governance Report

Corporate Organization



Organizational Functions

Foreign Subsidiaries

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

Global Sales and Marketing

- Responsible for global customer and operations 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

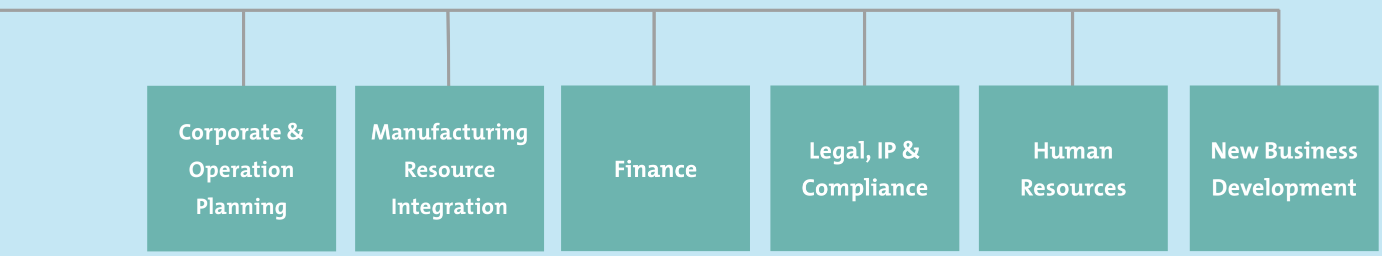
- Responsible for product engineering, malfunction and material analysis, product introduction and yield improvement for all fabs.
- Provide company-wide photomask service, management, quality control and improvements.
- Provide company-wide back-end encapsulation testing, quality control and improvements.

Digital

- Through innovative digital technologies, combine IoT, big data and artificial intelligence and integrate 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 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 procurement, import and export, warehousing management, 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.

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.

Audit

- Responsible for assisting the Board of Directors and managers to independently and objectively assess the effectiveness of internal control system designs and implementation. 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	39,916,452	0.32
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; Director, Triknight Capital Corporation; Chairman, HeJian Technology (Suzhou) Co., Ltd.; Chairman, UMC Capital Corp.; Director, United Microelectronics (Europe) B.V.; Director, UMC Capital (USA)
0	0	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	Professor, Department of Computer Science, 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, Inventec Corporation; Director, Iridium Medical Technology Co., Ltd.; Director, GeoThings, Inc.; Director, Modern Classic Limited

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. U.S.A.	Chung Laung Liu	Male	2018.06.12 <2006.06.12>	2021.06.11	0	0	0	0
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	6,094,648	0.05
	R.O.C.	Former representative: Chitung Liu	Male	2017.09.15 <2007.12.21>	2018.06.11	1,840,217	0.01	N/A	N/A
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	6,600,000	0.05
Former director	R.O.C.	UMC Science and Culture Foundation	N/A	2015.06.09 <2012.06.12>	2018.06.11	10,000	0.00	N/A	N/A

Note 1: Present shareholding figures are actual number of shares held on February 28, 2019.

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	Academician, Academia Sinica Honorary Chair Professor, National Tsing Hua University Sc.D. of Massachusetts Institute of Technology	Chairman, TrendForce Corp.; Independent director, Microelectronics Technology Inc.; Independent director, Powerchip Technology Corporation; Independent director, Far EasTone Telecommunications Co., Ltd.; Independent director, Accton Technology Corporation; Director, Macronix International Co., Ltd.; Director, UBI Pharma Inc.; Director, GeoThings, Inc.; Supervisor, Andes Technology Corporation
0	0	Chairperson, Sunrox International Inc. Master in International Finance, Meiji University	None
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, Wavetek Microelectronics Corporation; Director, Epistar Corp.; Director, United Semiconductor (Xiamen) Co., Ltd.; Director, UMC Capital Corp.
N/A	N/A	N/A	N/A
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, Wavetek Microelectronics Corporation; Director, UMC Group (USA); Director, United Microelectronics (Europe) B.V.; Director, UMC Capital Corp.; Director & President, UMC Capital (USA); Director, United Microtechnology Corporation (New York); Director, United Microtechnology Corporation (California); Director, Sino Paragon Limited
N/A	N/A	N/A	N/A

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

Note 5: The Company's 14th term of directors was elected at the Annual General Meeting on June 12, 2018 with Lih J. Chen and Jyuo-Min Shyu newly elected as independent directors.

Major Shareholders of UMC's Institutional Shareholders

Name of Institutional Shareholders	Major Shareholders (Holding Percentage)
Hsun Chieh Investment Co., Ltd.	Hsieh Yong Capital Co., Ltd. (63.48%); UMC (36.49%)
Silicon Integrated Systems Corp.	UMC (19.70%); CA Indosuez (Switzerland) SA (1.65%); Mu-Chuan Lin (1.58%); Hsun Chieh Investment Co., Ltd. (1.47%); Hsing-Sen Liu (1.37%); Vanguard Emerging Markets Stock Index Fund, a series of Vanguard International Equity Index Funds (1.33%); Pi-Ling Li (1.32%); JPMorgan Chase Bank N.A., Taipei Branch in custody for Vanguard Total International Stock Index Fund, a series of Vanguard Star Funds (0.92%); Fang-Lung Huang (0.85%); Liang Xun Investment Co., Ltd. (0.60%)
UMC Science and Culture Foundation	N/A

Major Shareholders of Institutional Shareholders Whom Are Major Shareholders of UMC's Institutional Shareholders

Name of Institutional Shareholders	Major Shareholders (Holding Percentage)
Hsieh Yong Capital Co., Ltd.	Unimicron Technology Corp. (16.67%); Silicon Integrated Systems Corp. (16.67%); Novatek Microelectronics Corp. (15.15%); Faraday Technology Corporation (12.12%); King Yuan Electronics Co., Ltd. (7.58%)

Directors' Professional Knowledge and Independence Information

Criteria / Name	Five or More Years 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	
Stan Hung			Yes	-	-	-	✔	✔	✔	✔	✔	✔	✔	0
SC Chien			Yes	-	-	✔	✔	✔	✔	✔	✔	✔	-	0
Jason Wang			Yes	-	-	✔	✔	✔	✔	✔	✔	✔	-	0
Cheng-Li Huang	Yes	Yes	Yes	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	0
Wenyi Chu	Yes		Yes	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	0
Lih J. Chen	Yes		Yes	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	0
Jyuo-Min Shyu	Yes		Yes	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	1
Chung Laung Liu	Yes		Yes	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	4
Ting-Yu Lin			Yes	✔	✔	-	✔	✔	✔	✔	✔	✔	✔	0

Notes: 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, its parent company, or any subsidiary, as appointed in accordance with the laws of Taiwan or with the laws of the country of the parent company or subsidiary.)

(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 any person specified in the preceding three columns.

(5) Is not a director, supervisor or employee of a legal entity which directly owns more than 5% of the Company's issued shares, nor a director, supervisor or employee of the top five legal entities which are owners of the Company's issued shares.

(6) 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.

(7) 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 financial, business consulting, or legal services, provided that this restriction does not apply to any member of the compensation committee who exercises powers pursuant to Article 7 of the "Regulations Governing the Establishment and Exercise of Powers of Compensation Committee of Companies whose Stock is Listed on the TWSE or Traded on the GTSM."

(8) Is not a spouse or relative within the second degree of kinship of any of the directors.

(9) Is not under any condition pursuant to Article 30 of the Company Act.

(10) Is not a government agency, legal entity 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	39,916,452	0.32	1,269,435	0.01
President	R.O.C.	SC Chien	Male	2004.11.23	6,094,648	0.05	0	0
President	U.S.A.	Jason Wang	Male	2014.12.24	6,600,000	0.05	0	0
Senior Vice President	R.O.C.	Ming Hsu	Male	2015.06.08	583,000	0.00	0	0
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	299,809	0.00	304	0.00
Vice President	R.O.C.	C C Hsu	Male	2013.01.01	1,152,068	0.01	0	0
Vice President	R.O.C.	M C Lai	Male	2015.03.30	626,863	0.01	0	0
Vice President	R.O.C.	G C Hung	Male	2015.01.28	600,791	0.00	0	0
Vice President	R.O.C.	Wenchi Ting	Male	2017.01.03	600,000	0.00	0	0
Vice President	R.O.C.	Jerry CJ Hu	Male	2013.04.02	605,000	0.00	0	0
Vice President	R.O.C.	Y S Shen	Male	2014.01.13	75,000	0.00	0	0
Vice President	R.O.C.	Steven S Liu	Male	2017.04.24	600,000	0.00	0	0
Vice President	R.O.C.	SR Sheu	Male	2008.07.16	1,418,892	0.01	786,017	0.01

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; Director, Triknight Capital Corporation; Chairman, HeJian Technology (Suzhou) Co., Ltd.; Chairman, UMC Capital Corp.; Director, United Microelectronics (Europe) B.V.; Director, UMC Capital (USA)
President, UMC Bachelor in Chemical Engineering, National Taiwan University	Director, Fortune Venture Capital Corp.; Director, TLC Capital Co., Ltd.; Director, Wavetek Microelectronics Corporation; Director, Epistar Corp.; Director, United Semiconductor (Xiamen) Co., Ltd.; Director, UMC Capital Corp.
President, UMC Business Administration, San Jose State University	Director, Fortune Venture Capital Corp.; Director, TLC Capital Co., Ltd.; Director, Wavetek Microelectronics Corporation; Director, UMC Group (USA); Director, United Microelectronics (Europe) B.V.; Director, UMC Capital Corp.; Director & President, UMC Capital (USA); Director, United Microtechnology Corporation (New York); Director, United Microtechnology Corporation (California); Director, Sino Paragon Limited
Senior Vice President, UMC Master in Science Electrical Engineering, University of Southern California	None
Senior Vice President & General Counsel, UMC J.D. in Law, University of Santa Clara	Director, Alpha and Omega Semiconductor Limited; Director, Reebotic Inc.
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	None
Vice President, UMC Master in Chemical Engineering, National Taiwan University	None
Vice President, UMC Ph.D. in Computer Information Science, University of Texas at Austin	Director, Asia Pacific Microsystems, Inc.
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

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.	M L Liao	Male	2008.07.16	2,640,809	0.02	199,138	0.00
Vice President	R.O.C.	S S Hung	Male	2013.01.01	416,406	0.00	0	0
Vice President	R.O.C.	Francia Hsu	Female	2016.03.16	280,000	0.00	0	0
Vice President & Chief Financial Officer	R.O.C.	Chitung Liu	Male	2005.10.20	2,440,217	0.02	0	0
Vice President & Chief Human Resources Officer	R.O.C.	Eric Chen	Male	2011.02.14	600,000	0.00	0	0
Associate Vice President	R.O.C.	Johnson Liu	Male	2014.11.04	506,413	0.00	1,631	0.00
Associate Vice President	R.O.C.	T W Liu	Male	2015.09.16	266,260	0.00	0	0
Associate Vice President	R.O.C.	S F Tzou	Male	2013.01.01	1,279,108	0.01	0	0
Associate Vice President	R.O.C.	Le Tien Jung	Male	2013.01.01	250,000	0.00	20,000	0.00
Associate Vice President	R.O.C.	Yau Kae Sheu	Male	2014.01.13	250,000	0.00	0	0
Associate Vice President	R.O.C.	J Y Wu	Male	2014.05.01	250,191	0.00	587	0.00

Experience/Education	Selected Current Position at Other Companies
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	None
Vice President, UMC Master in Industrial Engineering, National Chiao Tung University	None
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, UMC Technology Japan Co., Ltd.; Director, Sino Paragon Limited; Director, Mie Fujitsu Semiconductor Limited; Director, United Microtechnology Corporation (New York); Director, United Microtechnology Corporation (California)
Vice President & Chief Human Resources Officer, UMC EMBA in Finance, National Taiwan University	Director, United Semiconductor (Xiamen) Co., Ltd.; Director, Best Elite International Limited
Associate Vice President, UMC Bachelor in Physics, Tamkang University	None
Associate Vice President, UMC Bachelor in Electrical Engineering, National Central 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
Associate Vice President, UMC Master in Physics, Tamkang University	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.	Osbert Cheng	Male	2014.08.01	250,938	0.00	0	0
Associate Vice President	R.O.C.	Steven Hsu	Male	2016.03.16	250,000	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.	Chih Chong Wang	Male	2018.01.04	250,000	0.00	0	0
Associate Vice President	R.O.C.	C Y Hsu	Male	2017.04.17	4,267	0.00	0	0
Associate Vice President	R.O.C.	Ji Fu Kung	Male	2013.01.01	250,741	0.00	0	0
Associate Vice President	R.O.C.	C P Yen	Male	2015.09.16	352,645	0.00	0	0
Associate Vice President	R.O.C.	Mindy Lin	Female	2018.05.14	627,925	0.01	781,408	0.01
Associate Vice President	R.O.C.	Pang Min Wang	Male	2018.09.14	178,126	0.00	16	0.00
Former Senior Vice President	R.O.C.	Stephen K Chen	Male	2015.09.16	N/A	N/A	N/A	N/A
Former Vice President	R.O.C.	Max Chao	Male	2015.01.19	N/A	N/A	N/A	N/A

Note 1: Stephen K Chen and Max Chao, former managers, were dismissed in 2018.
Note 2: Present shareholding figures are actual number of shares held on February 28, 2019.
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.

Experience/Education	Selected Current Position at Other Companies
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 Ph.D. in Electrical Engineering, National Chiao Tung University	None
Associate Vice President, UMC EMBA, National Chiao Tung 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	Director, Nexpower Technology Corp.
Associate Vice President, UMC Master in Business Administration, University of Leicester	None
Associate Vice President, UMC Master in Integrated Manufacturing Systems Engineering, North Carolina State University	None
Former Senior Vice President, UMC Master in Materials Science & Engineering, National Tsing Hua University	N/A
Former Vice President, UMC Ph.D. in Materials Science, National Sun Yat-Sen University	N/A

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

Directors' Remuneration (Including Independent Directors')

<table>
<tr><th rowspan="3">Title</th><th rowspan="3">Name</th><th colspan="8">Director's Remuneration</th><th colspan="2" rowspan="2">Ratio of Total Remuneration (A+B+C+D) to Net Income (%)</th></tr>
<tr><th colspan="2">Base Compensation (A)</th><th colspan="2">Severance Pay and Pensions(B)</th><th colspan="2">Compensation to Directors (C)</th><th colspan="2">Business Execution Expenses(D)</th></tr>
<tr><th>The Company</th><th>Companies in the Consolidated Financial Statements</th><th>The Company</th><th>Companies in the Consolidated Financial Statements</th><th>The Company</th><th>Companies in the Consolidated Financial Statements</th><th>The Company</th><th>Companies in the Consolidated Financial Statements</th><th>The Company</th><th>Companies in the Consolidated Financial Statements</th></tr>
<tr><td>Chairman</td><td>Stan Hung</td><td rowspan="10">0</td><td rowspan="10">1,080</td><td rowspan="10">0</td><td rowspan="10">0</td><td rowspan="10">7,624</td><td rowspan="10">7,624</td><td rowspan="10">5,760</td><td rowspan="10">5,875</td><td rowspan="10">0.19</td><td rowspan="10">0.21</td></tr>
<tr><td>Independent director</td><td>Cheng-Li Huang</td></tr>
<tr><td>Independent director</td><td>Wenyi Chu</td></tr>
<tr><td>Independent director</td><td>Lih J. Chen</td></tr>
<tr><td>Independent director</td><td>Jyuo-Min Shyu</td></tr>
<tr><td>Director</td><td>Chung Laung Liu</td></tr>
<tr><td>Director</td><td>Ting-Yu Lin</td></tr>
<tr><td>Director</td><td>Hsun Chieh Investment Co., Ltd
Representative: SC Chien
Former representative: Chitung Liu</td></tr>
<tr><td>Director</td><td>Silicon Integrated Systems Corp.
Representative: Jason Wang</td></tr>
<tr><td>Former director</td><td>UMC Science and Culture Foundation</td></tr>
</table>

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			
277,785	286,811	398	398	14,750	0	14,750	0	4.33	4.48	4,135

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 2,000,000	Stan Hung Cheng-Li Huang Wenyi Chu Lih J. Chen Jyuo-Min Shyu Chung Laung Liu Ting-Yu Lin Jason Wang SC Chien Chitung Liu Hsun Chieh Investment Co., Ltd. Silicon Integrated Systems Corp. UMC Science and Culture Foundation	Stan Hung Cheng-Li Huang Wenyi Chu Lih J. Chen Jyuo-Min Shyu Chung Laung Liu Ting-Yu Lin Jason Wang SC Chien Chitung Liu Hsun Chieh Investment Co., Ltd. Silicon Integrated Systems Corp. UMC Science and Culture Foundation	Cheng-Li Huang Wenyi Chu Lih J. Chen Jyuo-Min Shyu Chung Laung Liu Ting-Yu Lin Hsun Chieh Investment Co., Ltd. Silicon Integrated Systems Corp. UMC Science and Culture Foundation	Cheng-Li Huang Wenyi Chu Lih J. Chen Jyuo-Min Shyu Chung Laung Liu Ting-Yu Lin Hsun Chieh Investment Co., Ltd. Silicon Integrated Systems Corp. UMC Science and Culture Foundation
NTD 2,000,000 (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)				
NTD 15,000,000 (inclusive)~ NTD 30,000,000 (exclusive)			Chitung Liu	Chitung Liu
NTD 30,000,000 (inclusive)~ NTD 50,000,000 (exclusive)			SC Chien	SC Chien
NTD 50,000,000 (inclusive)~ NTD 100,000,000 (exclusive)			Jason Wang	Jason Wang
NTD 100,000,000 or More			Stan Hung	Stan Hung
Total	13	13	13	13

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	71,298	92,391	3,938	3,938	444,576	456,308
President	SC Chien						
President	Jason Wang						
Senior Vice President	Ming Hsu						
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 Hung						
Vice President	Francia Hsu						
Vice President & Chief Financial Officer	Chitung Liu						
Vice President & Chief Human Resources Officer	Eric Chen						
Former Senior Vice President	Stephen K Chen						
Former Vice President	Max Chao						

In Thousand NTD

Employees' Profit Sharing Bonus(D)				Ratio of Total Compensation (A+B+C+D) to Net Income (%)		Compensation from Other Non-Consolidated Entities Invested by the Company
The Company		Companies in the Consolidated Financial Statements		The Company	Companies in the Consolidated Financial Statements	
Cash	Stock	Cash	Stock			
50,150	0	50,150	0	8.06	8.52	2,950

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 2,000,000		
NTD 2,000,000 (inclusive)~ NTD 5,000,000 (exclusive)		
NTD 5,000,000 (inclusive)~ NTD 10,000,000 (exclusive)	SR Sheu, Max Chao	SR Sheu, Max Chao
NTD 10,000,000 (inclusive)~ NTD 15,000,000 (exclusive)	C C Hsu	C C Hsu
NTD 15,000,000 (inclusive)~ NTD 30,000,000 (exclusive)	Ming Hsu, Lucas S Chang, TS Wu, M C Lai G C Hung, Wenchi Ting, Jerry CJ Hu, Y S Shen Steven S Liu, M L Liao, S S Hung, Francia Hsu Chitung Liu, Eric Chen, Stephen K Chen	Ming Hsu, Lucas S Chang, TS Wu, M C Lai G C Hung, Wenchi Ting, Jerry CJ Hu, Y S Shen Steven S Liu, M L Liao, S S Hung, Francia Hsu Chitung Liu, Eric Chen, Stephen K Chen
NTD 30,000,000 (inclusive)~ NTD 50,000,000 (exclusive)	SC Chien	SC Chien
NTD 50,000,000 (inclusive)~ NTD 100,000,000 (exclusive)	Jason Wang	Jason Wang
NTD 100,000,000 or More	Stan Hung	Stan Hung
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	0	76,050	76,050	1.08
President	SC Chien				
President	Jason Wang				
Senior Vice President	Ming Hsu				
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 Hung				
Vice President	Francia Hsu				
Vice President & Chief Financial Officer	Chitung Liu				
Vice President & Chief Human Resources Officer	Eric Chen				
Associate Vice President	Johnson Liu				
Associate Vice President	T W Liu				
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	Chih Chong Wang				
Associate Vice President	C Y Hsu				
Associate Vice President	Ji Fu Kung				
Associate Vice President	C P Yen				
Associate Vice President	Mindy Lin				
Associate Vice President	Pang Min Wang				
Former Senior Vice President	Stephen K Chen				
Former Vice President	Max Chao				

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

	2018		2017	
	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)	7,072,990	7,072,990	9,628,734	9,628,734
The Percentage of Directors' Remuneration to Net Income (%)	0.19	0.21	0.15	0.34
The Percentage of Executive officer's Compensation to Net Income (%)	8.06	8.52	1.79	2.02

Note 1: The directors' remuneration includes Base Compensation, Severance Pay and Pensions, Compensation to Directors and Business Execution Expenses. The managerial officers' compensation includes Salary, Severance Pay and Pensions, Bonuses and Special Expenses etc., and Employees' Profit Sharing Bonus.

Note 2: Relevant information during 2017 and 2018 were prepared in accordance with International Financial Reporting Standards which are endorsed by Financial Supervisory Commission.

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

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

Policy for Directors' Compensation

Pursuant to UMC's Articles of Incorporation, Article 21-1, the Company shall allocate no more than 0.1% of profit as directors' compensation for each profitable fiscal year after offsetting any cumulative losses. Directors may only receive compensation in cash. In accordance with Article 17, remunerations for all 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.

Policy for Management Team's Compensation

The Company annually evaluates its salary level with similar industries to ensure the Company's salary is competitive and achieve the purpose of attracting talent, motivating and retaining talent. 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.

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 determined 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 Nominating Committee, 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.

Corporate Governance Practices

Information of Board Meeting Operation

Board Meetings were held 8 times in 2018; all independent directors attended each meeting in person; the average attendance rate of all directors was 97.14%; the attendances of directors were as follows:

Title	Name	Attendance in Person	By Proxy	Attendance Rate (%)	Remarks
Chairman	Stan Hung	8	0	100.00	Re-election
Independent director	Lih J. Chen	6	0	100.00	Newly elected on June 12, 2018
Independent director	Jyuo-Min Shyu	6	0	100.00	Newly elected on June 12, 2018
Independent director	Cheng-Li Huang	8	0	100.00	Re-election
Independent director	Wenyi Chu	8	0	100.00	Re-election
Director	Chung Laung Liu	8	0	100.00	Re-election
Director	Ting-Yu Lin	7	0	87.50	Re-election
Director	Hsun Chieh Investment Co., Ltd. Representative: SC Chien	5	1	83.33	Representative was reassigned on June 12, 2018
	Hsun Chieh Investment Co., Ltd. Former representative: Chitung Liu	2	0	100.00	
Director	Silicon Integrated Systems Corp. Representative: Jason Wang	8	0	100.00	Re-election
Former director	UMC Science and Culture Foundation Former representative: SC Chien	2	0	100.00	Term expired on June 11, 2018

Other mentionable items:

1. 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:
   (1) 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 40-42 of the Annual Report for related information of the operation status of the Audit Committee.
   (2) 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.
2. 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:
   (1) Proposal for approving the Company to increase the amount of endorsement to United Semiconductor (Xiamen) Co., Ltd.'s syndicated loan from banks on March 7, 2018 and October 24, 2018: Director SC Chien was in conflict of interest and avoided the discussion and vote of the proposal since he also served concurrently as the Director of United Semiconductor (Xiamen) Co., Ltd. The proposal was approved without dissent by all other Directors in attendance.
   (2) Proposal for approving to release the managerial officer from non-competition restrictions on March 7, 2018: Chairman Stan Hung, Director SC Chien and Director Jason Wang were in conflict of interest and avoided the discussion and vote of the proposal since Chairman Stan Hung also served concurrently as the Chairman of Faraday Technology Corporation, and Director SC Chien and Director Jason Wang also served concurrently as the Directors of Wavetek Microelectronics Corporation. The proposal was approved without dissent by all other Directors in attendance.

(3) Proposal for approving to release the newly elected Director from non-competition restrictions on March 7, 2018: Director Chung Laung Liu, Director SC Chien and Director Jason Wang were in conflict of interest and avoided the discussion and vote of the proposal since Director Chung Laung Liu also served concurrently as the Independent directors of Microelectronics Technology Inc. and Powerchip Technology Corporation, Director SC Chien also served concurrently as the Directors of United Semiconductor (Xiamen) Co., Ltd. and Wavetek Microelectronics Corporation, and Director Jason Wang also served concurrently as the Director of Wavetek Microelectronics Corporation. The proposal was approved without dissent by all other Directors in attendance.

(4) Proposal for approving the Company's donation to UMC Science and Culture Foundation on March 7, 2018: 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.

(5) Proposal for approving the distributable compensation for managerial officers on March 7, 2018 and July 25, 2018: 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.

(6) Proposals for approving to release the managerial officer from non-competition restrictions and the Director from non-competition restrictions on June 29, 2018: Chairman Stan Hung was in conflict of interest and avoided the discussion and vote of the proposal since he also served concurrently as the Chairman of United Semiconductor (Xiamen) Co., Ltd. The proposal was approved without dissent by all other Directors in attendance.

(7) Proposal for approving to adjust the attendance fee of the Audit Committee on October 24, 2018: Directors who also attended the Audit Committee 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.

3. Measures taken to strengthen the functionality of the board: To implement corporate governance and enhance the Company's board functions, and to set forth performance objectives to improve the operation efficiency of the board of directors, "The Rules for Performance Assessment of the Board of Directors" was established in 2015, and the Company shall conduct an internal board performance assessment once a year. The Company engaged with an external assessment institution to conduct an assessment of board performance and efficiency in 2018.

   To assist the Board of Directors to enhance the management mechanism and to improve corporate governance for the Company's sustainable development, the Company established a Nominating Committee under the Board of Directors on December 13, 2017 to search, review and propose the candidate list of the directors and the executives accordingly, to execute the performance assessment and to supervise the corporate governance system and its execution.

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

Operation of 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 Audit Committee Charter (please refer to the company's website at http://www.umc.com/English/pdf/Audit_Committee_Charter_Eng.pdf).

According to the relevant regulations, the Audit Committee shall convene at least four regular meetings per year. In 2018 a total of six 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 assessing 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 six Audit Committee meetings in 2018, and the attendance status is shown in the following table:

Title	Name	Attendance	Proxy Attendance	Actual Attendance Rate (%)	Note
Independent Director	Cheng-Li Huang	6	0	100.00	Audit Committee convener Re-elected (note)
Independent Director	Wenyi Chu	6	0	100.00	Re-elected (note)
Independent Director	Lih J. Chen	4	0	100.00	Newly elected (note)
Independent Director	Jyuo-Min Shyu	4	0	100.00	Newly elected (note)
Independent Director	Chung Laung Liu	2	0	100.00	Term expired on June 11, 2018 (note)

Note: Mr. Cheng-Li Huang, Mrs. Wenyi Chu, Mr. Lih J. Chen and Mr. Jyuo-Min Shyu were elected as the independent directors during the Annual General Meeting on June 12, 2018, and became members of the Audit Committee.

Operation of 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 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
March 7, 2018, the 18th meeting of the 13th session	1. Approved the 2017 Consolidated Financial Statements (including Individual Financial Statements). 2. Approved the 2017 Statement of Internal Control System. 3. Approved to change Certified Public Accountant due to the internal reorganization of the CPA firm. 4. Approved the content of appointed service and fee for the independent auditor appointed in 2018. 5. Approved the company's donation to UMC Science and Culture Foundation. 6. Approved to increase the endorsement and guarantee of the syndication loan for United Semiconductor (Xiamen) Co., Ltd. 7. Approved termination of the issuance plan for private placement, which was approved at the 2017 Annual General Meeting. 8. Approved the proposal for private placement based on future operation needs and will propose at the 2018 Annual General Meeting for discussion.	Approved by all members present in the meeting.	Approved by all board directors present in the meeting.
April 25, 2018, the 19th meeting of the 13th session	1. Approved the Q1 2018 Consolidated Financial Statements. 2. Approved the merger between Fortune Venture Capital Corp. and subsidiary UMC New Business Investment Corp.	Approved by all members present in the meeting.	Approved by all board directors present in the meeting.
June 29, 2018, the 2nd meeting of the 14th session	1. Approved the acquisition of the common shares of Mie Fujitsu Semiconductor Limited. 2. Approved the proposal for HeJian Technology (Suzhou) Co., Ltd., a subsidiary of the company, to issue an initial public offering ("IPO") of RMB denominated ordinary shares (A-shares) on the Shanghai Stock Exchange.	Approved by all members present in the meeting.	Approved by all board directors present in the meeting.
July 25, 2018, the 3rd meeting of the 14th session	1. Approved the Q2 2018 Consolidated Financial Statements. 2. Approved engagement in derivatives trading. 3. Approved the acquisition of the common shares of Nexpower Technology Corp.	Approved by all members present in the meeting.	Approved by all board directors present in the meeting.
October 24, 2018, the 4th meeting of the 14th session	1. Approved the Q3 2018 Consolidated Financial Statements. 2. Approved to increase the endorsement and guarantee of the syndication loan for United Semiconductor (Xiamen) Co., Ltd.	Approved by all members present in the meeting.	Approved by all board directors present in the meeting.

Operation of 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
December 12, 2018, the 6th meeting of the 14th session	1. Approved the revision of the internal control system and internal audit implementation rules. 2. Approved 2019 annual audit plan. 3. Approved to endorse and guarantee the loan for subsidiary Nexpower Technology Corp.	Approved by all members present in the meeting.	Approved by all board directors present in the meeting.
March 6, 2019, the 7th meeting of the 14th session	1. Approved the 2018 Consolidated Financial Statements (including Individual Financial Statements). 2. Approved the 2018 Statement of Internal Control System. 3. Approved the content of appointed service and fee for the independent auditor appointed in 2019. 4. Approved the company's donation to UMC Science and Culture Foundation. 5. Approved amendment of the UMC Acquisition or Disposal of Assets Procedure. 6. Approved amendment of the UMC Financial Derivatives Transaction Procedure. 7. Approved UMC's Singapore branch to lend funds to United Semiconductor (Xiamen) Co., Ltd. 8. Approved termination of the issuance plan for private placement, which was approved at the 2018 Annual General Meeting.	Approved by all members present in the meeting.	Approved by all board directors present in the 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 2018.

2. Implementation of avoidance of independent director with respect to motion of stake: there was no such situation in the Audit Committee in 2018.
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 monthly. 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.
   (2) Each quarter, 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. 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, as well as 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 website: http://www.umc.com/English/investors/audit_committee/2018_communication.asp

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 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 Abstract Explanation	Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEx Listed Companies" and Reasons
The UMC Corporate Governance Practice Principles is posted on the Corporate Governance section of UMC's website for stakeholders to download. Please refer to: http://www.umc.com/English/pdf/UMC_Corporate_Governance_Practice_Principles_2017010_eng.pdf	None
UMC has designated a specific contact window (ir@umc.com) to deal with shareholders' suggestions, doubts, disputes and litigations. Please refer to the company's website for stakeholders' contact information: http://www.umc.com/English/CSR/c_2.asp	UMC deals with shareholders' suggestions, doubts, disputes and litigations based on "The Corporate Governance Best-Practice Principles for TWSE/TPEx Listed Companies." UMC doesn't 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. UMC's Board of Directors comprises of nine directors from different professional backgrounds, and they are responsible for the operations and supervision of UMC. The diversity of academic and industrial experience of the board members greatly enhances UMC's business decisions and medium and long-term strategic planning. Current members of the Board include four independent directors (including one female director) and two external individual directors. More than half of the directors do not hold managerial positions at UMC. For UMC Board diversification criteria, please refer to UMC's Policy for Nomination and Election of Directors. For implementation of Board diversification, please refer to the skill matrix of Board members. Please refer to the company's website for relevant information: http://www.umc.com/English/investors/Corp_Gov.asp	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 two 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 on December 13, 2017. 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 the UMC's website at http://www.umc.com/English/investors/Corp_Gov.asp	None

Corporate Governance Implementation Status and Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEx Listed Companies" (**Continue**)

Evaluation Item	Yes	No
(3) Does the company establish a standard to measure the performance of the Board, and implement it annually?	✔	
(4) Does the company regularly evaluate the independence of CPAs?	✔	

Implementation Status Abstract Explanation	Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEx Listed Companies" and Reasons
UMC has formulated Rules for Performance Assessment of the Board of Directors and implemented it accordingly. A. The company conducted annual self-assessment of the BOD, its functional committees and individual board members' performance. The assessment covers aspects such as awareness of the duties of directors, the degree of participation in the company's operations, understanding the business and its risks, the improvement of policy decision quality, the composition and structure of the board of directors, the election and continuing professional development of directors, internal control and Audit Committee communications, oversight of the financial reporting process, oversight of the external audit function and so on. In 2018, the self-assessment of the Board of Directors, functional committees and individual board members concluded that the performance was "Excellent," and the reports were submitted to the Nominating Committee and Board of Directors on March 6, 2019. B. The company's board performance assessment is conducted by an external independent professional institution or a panel of external experts and scholars at least once every three years. The company engaged with external assessment institution to conduct an assessment of board performance and efficiency in 2018 for the first time. Please refer to the company's website for "The Rules for Performance Assessment of the Board of Directors": http://www.umc.com /English/pdf/The_Rules_for_Performance_Assessment_of_the_Board_of_Directors_eng.pdf.	None
UMC's Audit Committee regularly evaluates the internal quality control procedures and independence of independent auditors, and reports to the Board of Directors for approval: A. Auditor Independence Declaration. 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 the result of the audit. C. The same audit partner has not performed audit services for more than five consecutive years.	None

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

Evaluation Item	Yes	No
4. Does the company set up a corporate governance unit or appoint personnel responsible for corporate governance matters (including but not limited to providing information for directors and supervisors to perform their functions, handling work related to meetings of the board of directors and the shareholders' meetings, filing company registration and changes to company registration, and producing minutes of board meetings and shareholders' meetings)?	✔	
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?	✔	

Implementation Status Abstract Explanation	Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEx Listed Companies" and Reasons
UMC has established the Nominating Committee to strengthen the functions of the Board of Directors, ensure shareholders' rights, and supervise relevant departments in the formulation of corporate governance rules and systems. The appointment of the Head of Corporate Governance was approved by the Nominating Committee and Board of Directors on March 6, 2019. The Head of Corporate Governance is the Chief Financial Officer, who has been in a managerial position for at least three years in a public company in handling financial and stock affairs, and has in-service professional training in according with the law. The key task of the Head of Corporate Governance is supervising finance division of convening Board meetings and shareholders meetings, producing meeting agenda, minutes and information disclosure, providing business information required by the directors, assisting the directors with legal compliance, and assisting the directors with their responsibilities and in-service training. The following are the 2018 Corporate Governance tasks, and a report has been submitted to the Nominating Committee and Board of Directors: 1. Ensure that Board members are promptly informed of key company information, and immediately notified after the company has issued a press release. 2. Institute a Nominating Committee under the Board of Directors to supervise corporate governance plans and implementation by UMC and its subsidiaries. Regularly report UMC's key operational and governance issues or legal amendments to the Board. 3. Arrange the required number of hours of in-service education for members of the Board, evaluate and purchase appropriate Directors' and Officers' Liability Insurance and report its contents to Board of Directors. 4. Convene communication meetings on an as needed basis for independent directors, independent auditors and the head of auditing, finance and accounting to implement internal control. 5. Notify Board of Directors members of the agenda seven days before Board meetings, convene meetings and provide meeting materials. Avoid presence during discussion and voting where a motion presents a conflict of interest. Complete and submit minutes of the Board of Directors meeting to each Board member within 20 days after the meeting. 6. To fulfill corporate governance, evaluate the performance of the Board of Directors and sub-committees according to the Rules for Performance Assessment of the Board of Directors, and accept external evaluation at least once every three years. 7. Conduct investor briefings on quarterly business performance, participate in periodic investment forums, designate specialists to service shareholders and establish multi communication channels for investors. 8. Schedule shareholders' meeting in accordance with the law, complete and post meeting notification, meeting handbook and minutes within legally mandated time frame, record changes such as constitution amendments or Board re-election within legally mandated time frame.	None
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 responding 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.	None

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

Evaluation Item	Yes	No
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)?	✔	
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 Abstract Explanation	Deviations from "The Corporate Governance Best-Practice Principles for TWSE/TPEx Listed Companies" and Reasons
UMC has appointed Horizon Securities Co., Ltd., a professional shareholder service agency, to deal with shareholder affairs.	None
The company has built a corporate website and exclusive webpage to publish up-to-date both financial standings and the status of corporate governance at all times for the investors' reference. Please refer to the company's website for related information: http://www.umc.com/English/investors/index.asp.	None
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: http://www.umc.com.	None
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 Director, please refer to pages 52-53 of this annual report. 2. Board meeting attendance: Please refer to pages 38-40 on Board Meeting Operations and Audit Committee Operations, and pages 56-57 on Remuneration Committee Operations in this annual report. 3. Risk management policies and risk measurement standards implementation: Please refer to pages 143-150 on Risk Management and Evaluation in this annual report. 4. Customer policy implementation: Please refer to pages 127-129 on Overview of Market, Production, and Sales in this annual report and the Corporate Social Responsibility Report on the UMC website at http://www.umc.com/English/CSR/b.asp. 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 http://www.umc.com/English/CSR/b.asp, and the stakeholder engagement - communication of stakeholders at http://www.umc.com/English/CSR/c_2_2.asp. 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 2017 and was reported during the last Board Meeting. 7. UMC website for corporate governance policies and implementation: http://www.umc.com/English/investors/Corp_Gov.asp.	None
UMC was in the top 5% of rankings in "Corporate Governance Evaluation" for four consecutive years since 2015. To implement corporate governance and enhance the company's board functions, "The Rules for Performance Assessment of the Board of Directors" was amended in 2017 stipulating that an external board performance assessment would be conducted at least once every three years, and the company engaged with an external assessment institution to conduct an assessment of board performance and efficiency in 2018 for the first time. To assist the Board of Directors to enhance the management mechanism and to improve corporate governance, the company has established a Nominating Committee under the Board of Directors on December 13, 2017 to search, review and propose the candidate list of the directors and the executives accordingly, to execute the performance assessment and to supervise the corporate governance system and its execution.	

Corporate Governance Practices (Continue)

Continuing Education/Training of Directors in 2018:

Title	Name	Study Period		Sponsoring Organization	Course	Training Hours	Compliance with Regulations (Note)
		From	To				
Chairman	Stan Hung	2018.03.07	2018.03.07	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	Performance Assessment of Board of Directors	3	Yes
		2018.07.24	2018.07.24	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	Updates: Tax Act and Related Regulations	3	Yes
		2018.10.23	2018.10.23	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Analysis of the points of the modification of the Company Act	3	Yes
Independent Director	Cheng-Li Huang	2018.03.05	2018.03.05	TAIWAN DEPOSITARY & CLEARING CORPORATION	100% E-Voting in 2018 and Enhancement of Corporate Value	6	Yes
		2018.03.07	2018.03.07	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	Performance Assessment of Board of Directors	3	Yes
		2018.05.08	2018.05.08	TAIWAN STOCK EXCHANGE CORPORATION	Corporate Governance Roadmap Forum	3	Yes
		2018.07.10	2018.07.10	SECURITIES & FUTURES INSTITUTE	The Compliance of Insider Equity Trading Regulations of Listed Companies Advocacy Meeting	3	Yes
Independent Director	Wenyi Chu	2018.03.07	2018.03.07	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	Performance Assessment of Board of Directors	3	Yes
		2018.04.20	2018.04.20	SECURITIES & FUTURES INSTITUTE	Insider Trading Prevention Advocacy Meeting in 2018	3	Yes
Independent Director	Lih J. Chen	2018.10.15	2018.10.15	FINANCIAL SUPERVISORY COMMISSION R.O.C. (Taiwan)	12th Taipei Corporate Governance Forum	6	Yes
Independent Director	Jyuo-Min Shyu	2018.03.26	2018.03.26	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Attack and Response of General Data Protection Regulation to Enterprises in Taiwan	1.5	Yes
		2018.05.15	2018.05.15	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Plan and Major Reform of Corporate Governance Roadmap (2018~2020)	1.5	Yes
		2018.08.14	2018.08.14	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Introduction of Major Issues of the Modification of the Company Act	1.5	Yes
		2018.09.10	2018.09.10	TAIWAN STOCK EXCHANGE CORPORATION, TAIPEI BAR ASSOCIATION	Corporate Governance Roadmap Discussion Series host by FSC: The Duty and Power of Directors	3	Yes

Corporate Governance Practices (Continue)

Continuing Education/Training of Directors in 2018:

Title	Name	Study Period		Sponsoring Organization	Course	Training Hours	Compliance with Regulations (Note)
		From	To				
Director	Chung Laung Liu	2018.03.07	2018.03.07	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	Performance Assessment of Board of Directors	3	Yes
		2018.08.01	2018.08.01	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	Directors & Officers Liability Insurance	3	Yes
Director	Ting-Yu Lin	2018.03.07	2018.03.07	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	Performance Assessment of Board of Directors	3	Yes
		2018.04.20	2018.04.20	SECURITIES & FUTURES INSTITUTE	Insider Trading Prevention Advocacy Meeting in 2018	3	Yes
Representative of Juristic-Person Director	SC Chien	2018.03.07	2018.03.07	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	Performance Assessment of Board of Directors	3	Yes
		2018.10.23	2018.10.23	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Analysis of the points of the modification of the Company Act	3	Yes
Representative of Juristic-Person Director	Jason Wang	2018.03.07	2018.03.07	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	Performance Assessment of Board of Directors	3	Yes
		2018.10.23	2018.10.23	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	The Analysis of the points of the modification of the Company Act	3	Yes
Former Representative of Juristic-Person Director	Chitung Liu	2018.01.16	2018.01.16	ACCOUNTING RESEARCH AND DEVELOPMENT FOUNDATION	The legal liability of Joint principal Offender, Instigator and Accessory of economic crime, and Case Analysis	3	Yes
		2018.03.07	2018.03.07	TAIWAN CORPORATE GOVERNANCE ASSOCIATION	Performance Assessment of Board of Directors	3	Yes
		2018.03.29	2018.03.29	ACCOUNTING RESEARCH AND DEVELOPMENT FOUNDATION	The Development Trend and Enterprises' Response of FinTech	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."

Corporate Governance Practices (Continue)

Continuing Education/Training of Managers in 2018:

Title	Name	Course Date	Organizer	Course Title	Course Hours
President	SC Chien	2018.03.20	Human Resources Department of UMC	【2018 Master Forum】Analysis and Prospects of Global Economic Trends	2
Vice President & Chief Human Resources Officer	Eric Chen	2018.03.20	Human Resources Department of UMC	【2018 Master Forum】Analysis and Prospects of Global Economic Trends	2
Vice President	SR Sheu	2018.03.20	Human Resources Department of UMC	【2018 Master Forum】Analysis and Prospects of Global Economic Trends	2
Vice President	M L Liao	2018.03.20	Human Resources Department of UMC	【2018 Master Forum】Analysis and Prospects of Global Economic Trends	2
Vice President	Steven S Liu	2018.03.20	Human Resources Department of UMC	【2018 Master Forum】Analysis and Prospects of Global Economic Trends	2
Former Vice President	Max Chao	2018.03.20	Human Resources Department of UMC	【2018 Master Forum】Analysis and Prospects of Global Economic Trends	2
President	SC Chien	2018.05.16	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Senior Vice President & General Counsel	Lucas S Chang	2018.05.16	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Senior Vice President	Ming Hsu	2018.05.16	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Vice President & Chief Human Resources Officer	Eric Chen	2018.05.16	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Vice President	TS Wu	2018.05.16	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Vice President	G C Hung	2018.05.16	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Vice President	M L Liao	2018.05.16	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Vice President	Wenchi Ting	2018.05.16	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Vice President	Steven S Liu	2018.05.16	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Vice President	Jerry CJ Hu	2018.05.16	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Associate Vice President	Mindy Lin	2018.05.16	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Vice President	SR Sheu	2018.05.24	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Vice President & Chief Financial Officer	Chitung Liu	2018.05.24	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Vice President	M C Lai	2018.05.29	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Vice President	S S Hong	2018.05.29	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Associate Vice President	Purakh Raj Verma	2018.05.29	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
Vice President	Y S Shen	2018.06.12	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2
President	Jason Wang	2018.07.27	Human Resources Department of UMC	【Legal Course】Introduction of Trade Secrets	2

Corporate Governance Practices (Continue)

Continuing Education/Training of Managers in 2018:

Title	Name	Course Date	Organizer	Course Title	Course Hours
President	SC Chien	2018.06.26	Human Resources Department of UMC	【2018 Master Forum】Strategic Innovation	2
Vice President & Chief Human Resources Officer	Eric Chen				
Vice President	TS Wu				
Vice President	SR Sheu				
Vice President	M L Liao				
Vice President	Wenchi Ting				
Vice President	Jerry CJ Hu				
Associate Vice President	Ji Fu Kung				
Associate Vice President	C Y Hsu				
Associate Vice President	Mindy Lin				
President	SC Chien	2018.08.14	Human Resources Department of UMC	【2018 Master Forum】Global Manufacturing Strategy in the Age of Globalization 3.0	2
Vice President & Chief Human Resources Officer	Eric Chen				
Vice President	M L Liao				
Vice President	Wenchi Ting				
Vice President	Jerry CJ Hu	2018.11.02	Human Resources Department of UMC	【Executive Program】Finance for Non-Financial Managers	4
Associate Vice President	Mindy Lin				
Vice President	TS Wu	2018.11.23			

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 2018.
The senior executive course are as follows：
【2018 Master Forum】A total of three sessions were held, with a total of 174 supervisors participating, with a course satisfaction rating of 93%.
【Executive Program】A total of two sessions were held, with a total of 66 supervisors participating, with a course satisfaction rating of 95.45%.

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 could inquire about and download corporate governance related information from: http://www.umc.com/English/investors/Corp_Gov.asp. For corporate governance implementation status, please refer to pages 38-94 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:
http://www.umc.com/English/pdf/Handling_Proprietary_Strictly_Confidential_Information_eng.pdf.

Corporate Governance Practices (Continue)

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 Member in Remuneration Committee	Note
		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 Are Necessary for the Company's Business and Have 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		
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 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, its parent company, or any subsidiary, as appointed in accordance with the laws of Taiwan or with the laws of the country of the parent company or subsidiary.

(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 any person specified in the preceding three columns.

(5) Is not a director, supervisor or employee of a legal entity which directly owns more than 5% of the Company's issued shares, nor a director, supervisor or employee of the top five legal entities which are owners of the Company's issued shares.

(6) 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.

(7) 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 financial, business consulting, or legal services.

(8) Is not under any condition pursuant to Article 30 of the Company Act.

Operation of Remuneration Committee:

The Remuneration Committee comprises of independent directors. The goal of this 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.

Information of 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 had convened three Remuneration Committee meetings in 2018 with the following attendance:

Title	Name	Number of Actual Attendance	Number of Proxy Attendance	Rate of Actual Attendance (%) (Note 1)	Note
Independent director	Wenyi Chu	3	0	100.00	Remuneration Committee convener Re-elected (Note 2)
Independent director	Cheng-Li Huang	3	0	100.00	Re-elected (note 2)
Independent director	Lih J. Chen	2	0	100.00	Newly elected (Note 2)
Independent director	Jyuo-Min Shyu	2	0	100.00	Newly elected (Note 2)
Independent director	Chung Laung Liu	1	0	100.00	Term expired on June 11, 2018 (Note 2)

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.

Note 1: Attendance Rate (%) is based on the committee member's attendance during her/his term of service.

Note 2: Mrs. Wenyi Chu, Mr. Cheng-Li Huang, Mr. Lih J. Chen and Mr. Jyuo-Min Shyu were elected as the independent directors during the Annual General Meeting on June 12, 2018, and became members of the remuneration committee.

Corporate Governance Practices (Continue)

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 includes: 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 the corporate governance system and practices in order to protect the interests of stakeholders.

Information of Nominating Committee Operation

1. There are 4 members in the Nominating Committee.
2. 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 2018. The attendance of the committee members was as follows:

Title	Name	Attendance in Person	By Proxy	Attendance Rate (%)	Remarks
Convener	Lih J. Chen	1	0	100.00	Newly elected on June 12, 2018.
Committee Member	Cheng-Li Huang	2	0	100.00	
Committee Member	Wenyi Chu	2	0	100.00	
Committee Member	Jyuo-Min Shyu	1	0	100.00	Newly elected on June 12, 2018.
Ex-Convener	Chung Laung Liu	1	0	100.00	Term expired on June 11, 2018.

Other mentionable items:

1. 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.
2. 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.
3. Major resolutions of Nominating Committee in 2018:
   March 7, 2018: Approved the Candidate List for the 14^{th} term of Directors.

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

Social Responsibility Implementation Status

Evaluation Item	Yes	No
1. Corporate Governance Implementation		
(1) Does the company declare its corporate social responsibility policy and examine the results of the implementation?	✔	
(2) Does the company provide educational training on corporate social responsibility on a regular basis?	✔	
(3) 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 Abstract Explanation	Deviations from "The Corporate Social Responsibility Best-Practice Principles for TWSE/TPEx Listed Companies" and Reasons
To fulfill corporate social responsibility and facilitate economic, environmental and social progress for the purpose of achieving sustainable development, UMC has formulated and complied 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.	None
During corporate sustainability committee meetings and company-wide forums, the Co-President of UMC delivers and shares the social responsibility philosophy and implementation in education and training to achieve educational and training objectives.	None
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 Chair of the Committee reports promotion outcome and plans, and key stakeholder issues and countermeasures to the Board of Directors annually. 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, Environmental Committee and Green Manufacturing Committee. The functions of each sub-committee are briefly described below: • Corporate Governance Committee Help strengthen the function of the Board and shareholder equity, integrate related regulations and policies of relevant departments, and help complete and implement the company's internal control system to ensure information transparency and disclosure, and compliance with regulations. • Customer Relationship Management Committee Refine customer service and quality control, improve service quality and customer satisfaction, and protect 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 Promote green product research and development and innovations, and lead 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. Integrate the UMC Cultural and Educational Foundation, and with focus on education, arts, sports, public service and environmental protection, strive to promote technological research and development cooperation, long-term educational assistance, arts and sports activities and other social welfare events. • Environmental Committee Promote company-wide environmental, safety and health, energy, water and greenhouse gas emission management. Establish sustainable supply chains and long-term partnerships with suppliers to enhance sustainable competitiveness. • Green Manufacturing Committee Promote company-wide green processes, such as hazardous materials management and increases in resource productivity.	None

Social Responsibility Implementation Status (Continue)

Evaluation Item	Yes	No
(4) Does the company declare a reasonable salary remuneration policy, and integrate the employee performance appraisal system with its corporate social responsibility policy, as well as establish an effective reward and disciplinary system?	✔	
2. Sustainable Environment Development		
(1) Does the company endeavor to utilize all resources more efficiently and use renewable materials which have low impact on the environment?	✔	

Implementation Status Abstract Explanation	Deviations from "The Corporate Social Responsibility Best-Practice Principles for TWSE/TPEx Listed Companies" and Reasons
Based on the philosophy of business integrity, UMC has formulated the Code of Ethics for Directors and Officers, the Ethical Corporate Management Best Practice Principles and the Employee Code of Conduct for all its directors, managers and employees to improve the quality and professional ethics of the company and its entire staff from top down. To achieve UMC's operational plans and divisional and individual goals, determine employee work performance, and justify employee promotion, training and salary, UMC conducts regular, company-wide job performance evaluation annually that is in accordance with UMC's merit and demerit system.	None
In 2001, UMC became the first company in Taiwan's semiconductor industry to pass the integrated ISO 14001 and OHSAS 18001 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. For more detailed descriptions of various energy efficiency measures, please refer to UMC's Corporate Social Responsibility Report, which is summarized below: • 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 plants. • 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-power chip design process. • Green products: Although UMC does not produce private brands through its wafer process integration, it continues to develop and incorporate numerous low-toxicity, low-energy green product designs 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 the QC-080000 IECQ HSPM certification for all its plants. • 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. Whenever possible, packaging materials with low environmental impact are used. • 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

Social Responsibility Implementation Status (Continue)

Evaluation Item	Yes	No
(2) Does the company establish proper environmental management systems based on the characteristics of their industries?	✔	
(3) Does the company monitor the impact of climate change on its operations and conduct greenhouse gas inspections, as well as establish company strategies for energy conservation and carbon reduction?	✔	

Implementation Status Abstract Explanation	Deviations from "The Corporate Social Responsibility Best-Practice Principles for TWSE/TPEx Listed Companies" and Reasons
To promote its environmental safety and health management system, UMC combines daily management and comprehensive quality management activities, and incorporates environmental safety management plans into actual fab 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. To achieve sustainable operation, 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.	None
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. • Climate Change Policy Expectations to reach carbon neutral To be the low carbon solutions provider To promote the development of a low carbon economy • Low carbon Commitment Low-carbon design process Energy efficiency optimization Installing high efficiency fluorinated greenhouse gases 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 green technology industry • Greenhouse gas emission reduction goals 1. (2013-2020) Reduce fluorinated greenhouse gas emissions intensity by 36%. Note: With 2010 as the base year. 2. (2016-2020) Reduce electricity consumption intensity 10% in five years. Note: With 2015 as the base year. UMC is committed to the spirit of initiative, openness, transparency and quality, and publicly discloses its management of greenhouse gas-related information. Results of greenhouse gas emissions inventory from 2000-2017 in Taiwan region passed ISO 14064-1 third party verification. Follow-up inventory and verification will be conducted regularly each year to fully control the use of greenhouse gases and verify the reduction outcome. The annual greenhouse gas emissions information for 2018 will be verified by third party inspection and publicly disclosed before June 2019. In addition to publicly disclosing greenhouse gas emissions information in the Corporate Social Responsibility Report and UMC Corporate Sustainability webpage over the last five years, UMC has also participated in the international carbon disclosure project(CDP) since 2006 by publicly disclosing its greenhouse gas emissions and related management measures each year. Furthermore, UMC has also been disclosing its greenhouse gas emissions and reduction information on the Market Observation Post System(MOPS) since 2014.	None

Social Responsibility Implementation Status (Continue)

Evaluation Item	Yes	No
3. Preserving Public Welfare		
(1) Does the company formulate appropriate management policies and procedures according to relevant regulations and the International Bill of Human Rights?	✔	
(2) Has the company set up an employee hotline or grievance mechanism to handle complaints with appropriate solutions?	✔	

Implementation Status Abstract Explanation	Deviations from "The Corporate Social Responsibility Best-Practice Principles for TWSE/TPEx Listed Companies" and Reasons
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 polices and specific management plans. For related information, please refer to the UMC website at http://www.umc.com/English/CSR/c_4.asp.	None
To promote harmonious and positive labor relations, UMC receives employee suggestions through labor and management meetings, division meetings, forums, grievance hotlines and suggestion boxes, and ensures that all grievance mechanisms can fully fulfill their communication and response functions. Employees are free to choose an appropriate channel for feedback, and UMC is committed to ensuring that this feedback is properly handled. To allow employees to confidently express their opinion and protect complainant rights, the investigation process and complainant identity are kept confidential. Based on employee attributes and local regulations, UMC has set up communication channels appropriate to local conditions. UMC has the following complaint channels A. Complaint channels for all levels of employees and cases. B. Assault and sexual harassment: Hotline: ext. 31995, Mailbox: 31995@umc.com C. Chief of Human Resource mailbox: CHO MailBox D. CSR mailbox: csr@umc.com E. ER Help Me Employee Hotline: ext. 12885 F. Reporting fraud and ethical violation: whistleblower@umc.com (This e-mail will be automatically forwarded to the Audit Committee, the Head of the Audit Office, the Head of the Human Resource Division and the Head of the Legal and Legal Compliance Division). External reporting hotline: 0800-024-399 (toll free). G. Grievance Hotline: 03-5782258, ext. 31425 H. Information Security and Confidential Protection Complaint: Infosec@umc.com	None

Social Responsibility Implementation Status (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?	✔	

<table>
<tr><th>Implementation Status

Abstract Explanation</th><th>Deviations from “The Corporate Social Responsibility Best-Practice Principles for TWSE/TPEx Listed Companies” and Reasons</th></tr>
<tr><td>UMC has three categories of safety and health education based on job characteristics:
• Company-wide safety and health education.
• Plant safety and health education organized by each fab.
• Safety and health related training formulated by each division according to divisional characteristics.
Employee contingency response and safety awareness are cultivated and their cognitive competence strengthened through continuous training and education to reduce accidents caused by unsafe conduct. UMC's contingency response, legally required certifications, safety and health management system maintenance, special operation safety protection and supervisory staff are included in the Company's annual training plans. In addition to planned training courses, other education and training are conducted as appropriate according to specific incident or major failure. In 2018, the Safe Mindset 4.0 Course was added to UMC's Behavior-Based Safety culture. To date, 2,063 classes have been offered, attracting a total of 101,739 participants. The courses included e-learning courses so that employees can learn safety and health knowledge without being limited by the schedule of physical courses.
In the spirit of Benefit from Society, Give Back to Society, UMC actively promotes healthy workplace-related activities. In 2018, UMC promoted a healthy workplace lifestyle themed "Go! Profit Without Sacrifice, Take Charge of Your Health!"
1. The themed health promoting activities attracted 23,194 participants, and average satisfaction rate was 96%. Specifically, Q1's " Let's GO Mother's Love!" had a total of 325 Likes from employees, 15,898 clicks, 15,898 participants and an average satisfaction rate of 97.5%.
Q2's "Let's GO~ Healthy Weight" self-weight reduction had 568 participants and 95.7% average satisfaction. In the Q3 "Stress Management--Feed Your Body, Mind and Spirit" stress management information platform that offers relaxation activities and stress reduction socials, 6,655 participated, and average satisfaction rate was 95.53%. Q4's "Improve Health Index," a health crisis awareness education and information service for personal alertness to health warnings, had 73 participants and 96.2% average satisfaction.
2. 30,585 utilized massage services by visually impaired masseurs.
3. 2,913consulted with in-house physicians.
4. 914 donated blood, totaling 1,427 bags of blood.
5. 532 received abdominal ultrasound exam, and average satisfaction was 94.3%.
6. 412 women were screened for cancer, and average satisfaction was 94.3%.
7. 858 received flu vaccination, and average satisfaction was 96.6%.
• Health guardian of employees and their dependents
Each year after the legally mandated annual medical examination, UMC provides health management and health promotion activities that are based on the results of the medical examination. Special operation inspectors are included in graded case management, and physicians are hired to provide health consultation services for employees. This health risk management targets all employees who are willing to provide their information, and achieves 100% identification of those at risk.
1. In 2018, 12,021 employees across the Company received medical examinations, and average satisfaction rate was 93.38%.
2. Based on questionnaire survey and risk classification, face-to-face consultation was scheduled with in-house physicians, and participation rate was 100%.
• Employee consultation and assistance program promotion
Individual counseling: One-on-one counseling with privacy protection mechanism to help employees resolve mental health issues. UMC pays for 6 sessions per employee per year. In 2018, 270 employees used the free counseling service.
The UMC Health Center health promoting activities continued to be well received and supported by employees in 2018. UMC's healthy workplace promotion and implementation were also widely validated by both employees and the outside community, and won the Global Views Monthly Corporate Social Responsibility Award in 2018. The Company's Fab 8A, Fab 8S and Fab 12A won the Healthy Workplace Self-management Excellence certification and received the health promotion mark, evidencing UMC's efforts in promoting a healthy workplace and its determination to protect employee rights, interests and health.</td><td>None</td></tr>
</table>

Social Responsibility Implementation Status (Continue)

Evaluation Item	Yes	No
(4) Does the company setup a communication channel with employees on a regular basis, as well as reasonably inform employees of any significant changes in operations that may have an impact on them?	✔	
(5) Does the company provide its employees with career development and training sessions?	✔	

Implementation Status Abstract Explanation	Deviations from "The Corporate Social Responsibility Best-Practice Principles for TWSE/TPEx Listed Companies" and Reasons
UMC values the feedback of each employee. To ensure that employee input is conveyed, the company provides comprehensive employee communication channels to ensure smooth and accurate communication of employee opinions. UMC respects the legal rights granted to employees. Employees have the freedom to form societies without the company's interference or intervention. Through established and a sound communication mechanism, the company communicates regularly with employees to build positive labor relations. The following are UMC's regular communication mechanisms: 1. Labor-management meeting A labor-management meeting is convened each quarter for each plant, and fab and operating regulations are adjusted according for each fab. UMC adopts a two-way interactive communication model with additional on-site consultation. Before the meeting, issue related regulations and their interpretations are compiled and individually explained. At the same time, the Human Resource Division assigns employees and supervisors familiar with relevant laws and regulations to form an inter-division and cross-functional consultation team to provide on-site consultation and assistance to both labor and management. 2. Senior Executives Communication Meeting, Employee Forum To familiarize employees and outside communities with UMC's operating policies and business performance, a company-wide forum is hosted by the General Manager. After each quarterly investor conference, UMC conducts international, cross-regional interactive communication meetings with 6 connected sites, with top divisional executives at each fab cooperating with this mechanism. After the company-wide forum, fab divisional communication meetings are convened as soon as possible to share with all employees overall operational performance and key fab and divisional development. 3. Employee Benefits Meeting, Secretary Forum An employee benefits meeting is convened each quarter to explain employee benefits activities and the use of funds for the quarter. Employee feedback is collected during the meeting to ensure that benefits are more in line with employee needs. Company-wide promotions are conveyed during quarterly secretary forums where division secretaries communicate key issues and assist with responding to employee feedback. 4. Satisfaction Survey UMC frequently adopts regular, project specific or incident specific satisfaction surveys. Current internal satisfaction survey systems used by UMC are quite diverse, and are specific to different targets and purposes to ensure genuine employee feedback and effective improvement.	None
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.	None

Social Responsibility Implementation Status (Continue)

Evaluation Item	Yes	No
(6) Does the company establish any consumer protection mechanisms and appealing procedures regarding research development, purchasing, producing, operating and service?	✔	

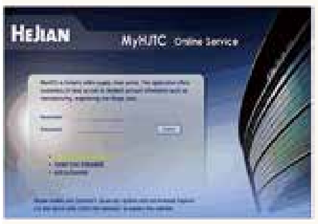
Implementation Status Abstract Explanation	Deviations from "The Corporate Social Responsibility Best-Practice Principles for TWSE/TPEx Listed Companies" and Reasons
See below	None

UMC is committed to strengthening world-class process technology, manufacturing capability and excellent service to enhance customer service value. Since the beginning, UMC has regarded its customers as partners, and has created with them an exceptional business philosophy that is based on the spirit of United for Excellence. To achieve a win-win situation in its mission and goals, UMC integrates closely with its customers, hence rendering customer satisfaction a core company value. Specific customer-oriented behaviors involve providing total solutions from customer perspective to meet customer demand for product and service quality. To this end, UMC has introduced the MyUMC, MyHJTC (for HJ only) and MyUSC (for USCXM only) online service platforms for customers to easily check their 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 more easily analyze product data as needed.

In addition to providing customers with information on the process materials for their products through the MyUMC, MyHJTC and MyUSC online service platforms, UMC has also incorporated the Voice of Customer (VOC) instant online complaint system within the MyUMC, MyHJTC and MyUSC service platforms for easy customer access. This interface allows customers to make requests, comments or suggestions about the company's products or services at any time. The system responds to customers within 24 hours regarding the processing of their request by relevant divisions. A specialist then assigns the customer input to appropriate division for handling and response, and customers can check the progress at any time on the website. UMC's measures for responding to customer complaints must meet customer demand for product and service quality. To this end, UMC's senior executives will review customer complaints, handling progress and the quality of response to ensure that each division not only offers corresponding measures but also provides 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 ongoing and comprehensive improvement of the company's product competitiveness and service quality.

MyUMC

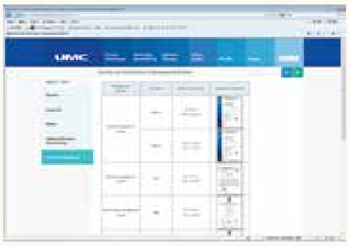
MyHJTC (For HJ only)



MyUSC (For USCXM only)

Social Responsibility Implementation Status (Continue)

Evaluation Item	Yes	No
(7) Does the company advertise and label its goods and services according to relevant regulations and international standards?	✔	
(8) Does the company evaluate the records of suppliers' impact on the environment and society before taking on business partnerships?	✔	
(9) Do the contracts between the company and its major suppliers include termination clauses which come into force once the suppliers breach the corporate social responsibility policy and cause appreciable impact on the environment and society?	✔	
4. Enhancing Information Disclosure		
(1) Does the company disclose relevant and reliable information regarding its corporate social responsibility on its website and the Market Observation Post System (MOPS)?	✔	
5. 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:		
6. Other important information to facilitate better understanding of the company's corporate social responsibility practices:		
7. A clear statement shall be made below if the corporate social responsibility reports were verified by external certification institutions:		

Implementation Status Abstract Explanation	Deviations from "The Corporate Social Responsibility Best-Practice Principles for TWSE/TPEx Listed Companies" and Reasons
UMC is ISO 9001 & IATF 16949 & QC 080000 IECQ HSPM international standards certified. 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 responsibility as a global citizen to ensure environmental protection and human health and safety. Certificates 	None
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 of a set of assessments to rate the sustainability of suppliers, and include 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 is terminated.	None
Currently, UMC discloses company related information in the Company's annual report, the UMC Corporate Social Responsibility Report and the Corporate Sustainability webpage at http://www.umc.com/English/CSR/index.asp on the UMC website. UMC also provides company information to relevant external stakeholders such as customers, the media and government agencies when requested. Since 2014, UMC has been disclosing its social responsibility information such as the UMC Corporate Social Responsibility Report and greenhouse gas management in the Market Observatory Post System annually.	None
For details of the Corporate Social Responsibility Practice Principles formulated by UMC, please refer to http://www.umc.com/English/investors/Corp_Gov.asp on the UMC website. The UMC corporate sustainable operations found on the UMC website shows no significance inconsistency from the Corporate Social Responsibility Best Practice Principles for TWSE/GTSM for Listed Companies.	
UMC is a current member of the 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. For other details, please refer to the UMC Corporate Social Responsibility Report and the Corporate Sustainability webpage at http://www.umc.com/English/CSR/index.asp on the UMC website.	
As of 2018, UMC has publicly issued a non-financial related sustainability annual report for 18 consecutive years. At the same time, the 2017 UMC Corporate Social Responsibility Report is the 13th 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 2019, UMC will compile the 2018 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. UMC will remain transparent to the public and continue to demonstrate its commitment and determination in pursuing sustainable development.	

Ethical Corporate Management

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 in its guidelines and external documents, as well as the commitment from its board to implement the policies?	✔	
(2) 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?	✔	
(3) Does the company establish 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?	✔	
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 to be in charge of corporate integrity and regularly report to the Board of Directors?	✔	
(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 either internal auditors or CPAs on a regular basis?	✔	
(5) Does the company regularly hold internal and external educational trainings on operational integrity?	✔	

Implementation Status Abstract Explanation	Deviations from "The Ethical Corporate Management Best-Practice Principles for TWSE/TPEx Listed Companies" and Reasons
UMC has formulated the Ethical Corporate Management Best Practice Principles, the Code of Ethics for Directors and Officers, the Employee Code of Conduct and the UMC Code of Conduct as regulatory guidelines for all directors, managers and employees of the company. Please refer to the UMC website at http://www.umc.com/English/investors/Corp_Gov.asp and http://www.umc.com/English/CSR/c_4.asp for details.	None
The UMC Ethical Corporate Management Best Practice Principles and the Employee Code of Conduct are provisions for addressing moral integrity, conflict of interest avoidance and business entertainment. Other relevant education, training or tests are conducted from time to time for employee education.	None
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).	None
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. Ethical management is only one part of corporate sustainability. For further information, please refer to UMC website at http://www.umc.com/English/CSR/c_4.asp.	None
Please refer to Pages 83-87 of the Employee Code of Conduct for policies and reporting channels.	None
The UMC audit division is directly under the Board of Directors/Audit Committee to ensure the independence and objectivity of audits. Each year, the audit division evaluates the company's risks and develops an annual audit plan, implements audits, issues audit reports and tracks improvement accordingly, and conducts control self-assessment annually. The head of the audit division regularly communicates with members of the Audit Committee regarding audit results and follow-up, and presents audit affairs and discusses with independent directors during Audit Committee and Board of Directors meetings to fully communicate audit content and performance. UMC regularly revises its internal control system to respond promptly to environmental changes and to improve the effectiveness of design and operation. Amendments are reported to the Audit Committee and Board of Directors for approval. 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.	None
In accordance with the philosophy of ethical management, UMC has formulated the Code of Ethics for Directors and Officers, the Ethical Corporate Management Best Practice Principles and the Employee Code of Conduct as regulatory guidelines for all its directors, managers and employees. From top down, these regulations enhance the quality of conduct and professional ethics of the company and its entire staff. The above mentioned 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. In 2018, UMC fabs in Taiwan and Singapore have completed the training courses and passed relevant tests.	None

Ethical Corporate Management (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?	✔	
(3) Does the company provide proper whistleblower protection?	✔	
4. Strengthening information disclosure		
(1) Does the company disclose its ethical corporate management policies and the results of its implementation on the company's website and MOPS?	✔	
5. If the company has established the 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 Abstract Explanation	Deviations from "The Ethical Corporate Management Best-Practice Principles for TWSE/TPEx Listed Companies" and Reasons
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. 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 83-87 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 83-87 of the Employee Code of Conduct.	None
UMC discloses its principles on ethical corporate management and relevant regulations 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 Ethical Corporate Management Best Practice Principles and the Employee Code of Conduct. 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 83-87 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 http://www.umc.com/English/CSR/index.asp on the UMC website.	

Specific Measures for Ethical Management in 2017-2018

Item	Implementation Status
Legal Compliance	• Inter-division regulatory compliance is coordinated by the Legal Division, and other regulations are regularly reviewed by relevant divisions. • In 2018, the Legal Division coordinated overall regulatory compliance with the EU General Data Protection Regulation.
UMC Code of Conduct Implementation	• The content of the Codes is reviewed bi-annually: 1. Review of the Employee Code of Conduct was completed in October 2017. 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 2018, no major ethical violations were reported. • Employee Code of Conduct education and testing were conducted in August 2018, with 100% completion rate. • 13 sessions of Employee Code of Conduct were offered for new employees in 2018, with 100% completion rate. • Employee Code of Conduct promotion/educational courses: 1,102 participants and a total of 36 hours in 2017; and 625 participants and a total of 19.5 hours in 2018.
UMC fair competition, intellectual property rights violations	• Litigation cases in each quarter of 2018 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 November 2018. • For intellectual property rights education, two weekly training courses are offered to new employees: Introduction to UMC Intellectual Property Rights, and Basic Legal Knowledge and Risk Awareness Regarding External Documents. In 2018, four educational sessions were conducted on the eUMC website. • Introduction to UMC Intellectual Property Rights education/training course: 2,066 participants totaling 46 hours in 2017; and 1,333 participants totaling 45.9 hours in 2018. • Basic Legal Knowledge and Risk Awareness Regarding External Documents education/training course: 837 participants totaling 20.4 hours since implementation began in April 2018.
Financial reporting related internal control	• Annual audit by external auditors and internal Audit Division. • Results of internal audits for 2018 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 family[1]).

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 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 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 to 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.

Please refer to the website http://www.umc.com/English/pdf/Code_of_Ethics.pdf for the presentation 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.

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.

Employee Code of Conduct (Continue)

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 (NT$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 LA&C 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; LA&C Level 1 Manager: LA&C_Director @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 USD100.00, 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 http://www.umc.com/English/pdf/Employee_Code_of_Conduct-e.pdf for the presentation shown above.

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

When establishing the prevention programs, the company shall analyze which business activities within its business scope are possibly at a higher risk of being exposed to unethical conduct, and strengthen its preventive measures.

Article 8

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.

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 on a regular basis.

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.

Its internal audit unit shall periodically examine the company's compliance with the foregoing systems and prepare audit reports and submit the same to the board of directors. The internal audit unit may engage a certified public accountant to carry out the audit, and may engage professionals to assist if necessary.

UMC Ethical Corporate Management Best Practice Principles (Continue)

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.

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 http://www.umc.com/English/pdf/UMC_Ethical_Corporate_Management_Best_Practice_Principles_eng.pdf for the presentation shown above.

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 2018.

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, 2018, 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 Law.
7. This Statement was passed by the Board of Directors in their meeting held on March 6, 2019, with none of nine 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

March 6, 2019

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 a special audit of internal control system in 2018.

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

Company Legal Liabilities	Improvement
UMC had an electrical related incident. The competent authority found UMC in violation of the Occupational Safety and Health Act and imposed a fine of NTD 120,000.	Strengthened the contractor's workplace hazard notification and agreement operation.
The competent authority found that a few of UMC's operations "failed to comply with regulations" and violated the Labor Standards Act, and imposed a fine of NTD 200,000.	UMC has improved the said oversights and complied with the Labor Standards Act.

Note: The data represented for 2019 was gathered until March 6, 2019

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

The Major Resolutions from the Shareholders' Meetings

1. The Company's 2018 Annual General Meeting was held at UMC's Fab 8S Conference Hall, No.16, Creation Rd. 1, Hsinchu Science Park on June 12, 2018. 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 2017 business report and financial statements	• In 2017, UMC's sales revenue was NTD 149,284,706 thousand, and net income attributable to the parent reached NTD 9,628,734 thousand, leading to an earnings per share of NTD 0.79.
2.	Acceptance of the 2017 Earnings Distribution Chart	• Distribution of 2017 earnings with cash dividend of NTD 8,557,023,101 • The ex-dividend record date was set for July 16, 2018, and cash dividend for common shares was paid on July 31, 2018.
3.	Election of the Company's 14th Term of Directors	• List of the Company's 14th term of directors Elected: Stan Hung, Cheng-Li Huang, Wenyi Chu, Lih J. Chen, Jyuo-Min Shyu, Chung Laung Liu, Ting-Yu Lin, SC Chien, representative of Hsun Chieh Investment Co., Ltd., and Jason Wang, representative of Silicon Integrated Systems Corp.
4.	Approval of the amendment of the Company's Articles of Incorporation	• Implemented in accordance with resolution
5.	Approval of the issuance plan of private placement for common shares, ADR/GDR or CB/ECB, including Secured or Unsecured Corporate Bonds. The amount of shares issued or convertible is proposed to be to no more than 10% of registered capital	• Considering market conditions, the resolution for terminating the issuance plan for private placement was passed during the 7th board meeting of the 14th term.
6.	Approval of releasing the newly elected directors from non-competition restrictions	• Implemented in accordance with resolution

2. The Company's 2018 First Extraordinary Meeting was held at UMC's Fab 8S Conference Hall, No.16, Creation Rd. 1, Hsinchu Science Park on August 20, 2018. The resolutions approved by the shareholders present in person or by proxy and its implementation status:

Items	Resolutions from the Extraordinary Meeting	Implementation Status
1.	Approval of proposal for HeJian Technology (Suzhou) Co., Ltd., a subsidiary of the Company, to issue an initial public offering ("IPO") of RMB denominated ordinary shares (A-shares) on the Shanghai Stock Exchange	• Implemented in accordance with resolution
2.	Approval of releasing the directors from non-competition restrictions	• Implemented in accordance with resolution

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

The Major Resolutions from the Board of Directors' Meeting

Meeting Date	Major Resolutions
2018.03.07	• Approved the 2017 Business Report and Financial Statements. • Approved the 2017 distributable compensation for employees and directors. • Approved the 2017 Dividend Distribution. • Approved termination of the issuance plan for private placement, which was approved at the 2017 Annual General Meeting. • Approved the proposal for private placement based on future operation needs and will propose at the 2018 Annual General Meeting for discussion. • Approved the date of convening the 2018 Annual General Shareholders' Meeting, meeting agenda and submission period for shareholder proposals. • Approved capital budget execution. • Approved to increase, endorse and guarantee the syndication loan for United Semiconductor (Xiamen) Co., Ltd. • Approved to change Chartered Public Accountant due to the internal reorganization of the CPA firm. • Approved UMC's donation to UMC Science and Culture Foundation. • Approved to release the managerial officer from non-competition restrictions. • Approved the Company's 18th share repurchase program.
2018.04.25	• Approved the Q1, 2018 Consolidated Financial Statements. • Approved capital budget execution. • Approved to release the managerial officer from non-competition restrictions. • Approved the announced merger between Fortune Venture Capital Corp. and subsidiary UMC New Business Investment Corp.
2018.06.12	• Stan Hung is unanimously elected as Chairman by the Board of Directors. • Approved to appoint members of the 4th term of remuneration committee. • Approved to appoint members of the 2nd term of nominating committee. • Approved the record date for 2017 cash dividend. • Approved the adjustment of 2017 cash dividend ratio.
2018.06.29	• Approved proposal for HeJian Technology (Suzhou) Co., Ltd., a subsidiary of the Company, to issue an initial public offering ("IPO") of RMB denominated ordinary shares (A-shares) on the Shanghai Stock Exchange. • Approved to release the managerial officer from non-competition restrictions. • Approved the date of convening the 2018 Extraordinary General Shareholders' Meeting, meeting agenda and submission period for shareholder proposals. • Approved the acquisition of the common shares of Mie Fujitsu Semiconductor Limited.
2018.07.25	• Approved the Q2, 2018 Consolidated Financial Statements. • Approved capital budget execution. • Approved the acquisition of the common shares of Nexpower Technology Corporation.
2018.10.24	• Approved the Q3, 2018 Consolidated Financial Statements.
2018.11.05	• Approved the Company's 19th share repurchase program.
2018.12.12	• Approved capital budget execution.
2019.03.06	• Approved the 2018 Business Report and Financial Statements. • Approved the 2018 distributable compensation for employees and directors. • Approved the 2018 Dividend Distribution. • Approved termination of the issuance plan for private placement, which was approved at the 2018 Annual General Meeting. • Approved the date of convening the 2019 Annual General Shareholders' 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 the capital reduction for the cancellation of treasury shares. • Approved UMC's donation to UMC Science and Culture Foundation. • Approved to designate a Company Secretary.

Major Issues of Record or Written Statements Made by Any Director Dissenting to Important Resolutions Passed by the Board of Directors During 2018 and as of the Annual Report Printing Date:

None.

Resignation or Dismissal of Chairman, President, and Heads of Accounting, Finance, Internal Audit and R&D During 2018 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

Number of Employees

Certification Name	Internal Audit	Accounting	Finance
Certified Public Accountants (CPA)	2	17	2
US Certified Public Accountants (US CPA)		5	1
Association of Chartered Certified Accountants Singapore (ACCA Singapore)		1	
Certified Internal Auditor (CIA)	1	4	
CABIAV Certificate of Certified Business Valuator		2	1

Certified Public Accountant (CPA) Fee Information

For the Non-Audit Fee Paid to 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	Remark
			System Design	Business Registration	Human Resources	Others (Note)	Subtotal		
Ernst & Young, Taiwan	Wan-Ju Chiu, Hsin-Min Hsu	57,098		69		1,214	1,283	2018.01.01~ 2018.12.31	-

Note: The "Others" category within the non-audit fees mainly includes fees paid for 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 15% from Last Year, the Amount, Ratio, and Reason for the Reduction of the Audit Fee Should Be Disclosed

In 2018, the audit fee was around NTD 10 million less than the audit fee from 2017, which is a reduction of around 15%. This is mainly due to the reduction in CPA audit hours.

Information of CPA Change

1. About the Previous CPA

Date of Change	2018.03.07		
Reason and Description of the Change	The internal job responsibilities of the CPA firm have been adjusted, in that CPA Shao-Pin Kuo and CPA Wan-Ju Chiu have been replaced by CPA Wan-Ju Chiu and CPA Hsin-Min Hsu.		
Disclosure that the Appointer or CPA is either Terminated or Refuses the Appointment	Party / Situation	CPA	Appointer
	Termination of appointment	Not applicable	Not applicable
	Does not accept (continuous) the appointment	Not applicable	Not applicable
Opinions and Reasons of Audit Report Issued in the Past Two Years other than Unqualified Opinions	None.		
Any Disagreement with the Issuer	Yes	☐	Accounting principles or practice
		☐	Disclosure of financial report
		☐	Scope or steps of audit
		☐	Others
	No	☑	
	Description		
Other Items to be Disclosed. (Those to be Disclosed According to Article 10 Paragraph 6 Item 1-4 to Item 1-7 of this Criteria)	None.		

Information of CPA Change (Continue)

2. About the Successor CPA

Name of CPA Firm	Ernst & Young, Taiwan
Name of CPA	Wan-Ju Chiu, Hsin-Min Hsu
Date of Appointment	2018.03.07
Consultation Results and Opinions on Accounting Treatments or Principles with Respect to Specified Transactions and the Company's Financial Reports that the CPA might Issue Prior to the Engagement	None.
Documentary Opinion on the Matter of Disagreement between Successor CPA and Former CPA	None.

3. **Documentary reply by former CPA with respect to the matters of Article 10 Paragraph 6 Item 1 and Item 2-3 of this Criteria.**
   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	2019		2018	
		Holding Increase (Decrease)	Pledged Holding Increae (Decrease)	Holding Increae (Decrease)	Pledged Holding Increae (Decrease)
Chairman, CSO	Stan Hung	0	0	23,575,000	0
Director	Hsun Chieh Investment Co., Ltd.	0	0	0	0
Director	Silicon Integrated Systems Corp.	0	0	(30,000,000)	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	Chung Laung Liu	0	0	0	0
Director	Ting-Yu Lin	0	0	0	0
President	SC Chien	0	0	4,200,000	4,590,000
President	Jason Wang	0	0	6,600,000	0
Senior Vice President	Ming Hsu	0	0	580,000	0
Senior Vice President, General Counsel	Lucas S Chang	0	0	600,000	0
Vice President	TS Wu	0	0	(150,000)	0
Vice President	C C Hsu	0	0	600,000	0
Vice President	M C Lai	0	0	400,000	400,000
Vice President	G C Hung	0	0	240,000	0
Vice President	Wenchi Ting	0	0	600,000	0
Vice President	Jerry CJ Hu	0	0	545,000	0
Vice President	Y S Shen	0	0	(17,000)	0
Vice President	Steven S Liu	0	0	600,000	0
Vice President	SR Sheu	0	0	0	0
Vice President	M L Liao	0	0	465,000	0

Change in Shareholding of Directors, Managers and Major Shareholders who own 10% or more of UMC Shares (Continue)

Unit: shares

Title	Name	2019		2018	
		Holding Increase (Decrease)	Pledged Holding Increae (Decrease)	Holding Increae (Decrease)	Pledged Holding Increae (Decrease)
Vice President	S S Hung	0	0	30,000	0
Vice President	Francia Hsu	0	0	280,000	0
Vice President, CFO	Chitung Liu	0	0	600,000	0
Vice President, Chief Human Resources Officer	Eric Chen	0	0	534,443	0
Associate Vice President	Johnson Liu	0	0	196,000	0
Associate Vice President	T W Liu	0	0	250,000	0
Associate Vice President	S F Tzou	0	0	(250,000)	0
Associate Vice President	Le Tien Jung	0	0	250,000	0
Associate Vice President	Yau Kae Sheu	0	0	250,000	0
Associate Vice President	J Y Wu	0	0	(100,000)	0
Associate Vice President	Osbert Cheng	0	0	250,000	0
Associate Vice President	Steven Hsu	0	0	250,000	0
Associate Vice President	Purakh Raj Verma	0	0	0	0
Associate Vice President	Chih Chong Wang	0	0	250,000	0
Associate Vice President	C Y Hsu	0	0	0	0
Associate Vice President	Ji Fu Kung	0	0	250,000	0
Associate Vice President	C P Yen	0	0	250,000	0
Associate Vice President	Mindy Lin	0	0	250,000	0
Associate Vice President	Pang Min Wang	0	0	0	0
Former Director	UMC Science and Culture Foundation	N/A	N/A	0	0
Former Senior Vice President	Stephen K Chen	N/A	N/A	625,000	0
Former Vice President	Max Chao	N/A	N/A	0	0

Note 1: No shareholder owns 10% or more of UMC shares.
Note 2: The data presented for 2019 was gathered until February 28, 2019.
Note 3: Counterparts of the shareholding transferred or pledged are not related parties.
Note 4: The shares change for Mindy Lin and Pang Min Wang are calculated starting from the assumed date.
Note 5: The shares change for UMC Science and Culture Foundation, Stephen K Chen and Max Chao are reported until their resignation.

Relationship Among the Top Ten 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 TopTen 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	719,383,700	5.70	N/A	N/A	0	0	None	None	
JPMorgan Chase Bank N.A. Taipei Branch in custody for Capital World Growth and Income Fund	451,798,809	3.58	N/A	N/A	0	0	None	None	
Hsun Chieh Investment Co., Ltd.	441,371,000	3.50	N/A	N/A	0	0	None	None	
Representative: SC Chien	1,894,648	0.02	0	0	0	0	None	None	
Silicon Integrated Systems Corp.	315,380,424	2.50	N/A	N/A	0	0	None	None	
Representative: Jason Wang	0	0	0	0	0	0	None	None	
Silchester International Investors International Value Equity Trust	215,169,000	1.70	N/A	N/A	0	0	None	None	
Prudential Assurance Company Ltd.	181,498,000	1.44	N/A	N/A	0	0	None	None	
Yann Yuan Investment Co., LTD.	172,000,000	1.36	N/A	N/A	0	0	None	None	
Cathay Life Insurance Co., Ltd.	160,163,237	1.27	N/A	N/A	0	0	None	None	
Taiwan Life Insurance Co., Ltd.	154,934,000	1.23	N/A	N/A	0	0	None	None	
JPMorgan Chase Bank N.A. Taipei Branch in custody for EuroPacific Growth Fund	149,780,000	1.19	N/A	N/A	0	0	None	None	

Note: The data shown above was recorded on July 22, 2018, which was the book closure date of the 2018 First Extraordinary General Meeting.

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.	387,600,000	100.00	0	0	387,600,000	100.00
GREEN EARTH LIMITED	977,000,000	100.00	0	0	977,000,000	100.00
FORTUNE VENTURE CAPITAL CORP	462,000,000	100.00	0	0	462,000,000	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
NEXPOWER TECHNOLOGY CORP.	33,998,269	47.75	32,668,013	45.88	66,666,282	93.63
UNITECH CAPITAL INC.	21,000,000	42.00	2,500,000	5.00	23,500,000	47.00
HSUN CHIEH INVESTMENT CO., LTD.	168,973,049	36.49	0	0	168,973,049	36.49
BEST ELITE INTERNATIONAL LIMITED	664,966,275	100.00	0	0	664,966,275	100.00
WAVETEK MICROELECTRONICS CORPORATION	126,230,387	77.74	3,867,414	2.38	130,097,801	80.12
UMC GROUP JAPAN	1,000	100.00	0	0	1,000	100.00
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	64.95	N/A	64.95
FARADAY TECHNOLOGY CORPORATION	34,240,213	13.78	142,973	0.06	34,383,186	13.84
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
TRIKNIGHT CAPITAL CORPORATION	168,000,000	40.00	0	0	168,000,000	40.00

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

Note 2: The number of shares is based on the actual number of shares held on December 31, 2018.

Capital Overview

Capital and Shares

Source of Capital

Month/Year	Issue Price (Per Share)	Authorized Capital		Paid-in Capital		Remarks		
		Shares (In Thousands)	Amount (In Thousand NTD)	Shares (In Thousands)	Amount (In Thousand NTD)	Source of Capital	Capital Increased by Assets Other than Cash	Other
September, 2018	NTD 10	26,000,000	260,000,000	12,424,319	124,243,187	NOTE 1	-	-

Note 1: On September 4, 2018, the Hsinchu Science Park Bureau, Ministry of Science and Technology approved the capital reduction of NTD 2,000,000 thousand due to cancellation of treasury shares. The Company's paid-in capital was decreased to NTD 124,243,187 thousand.

Note 2: The data shown above was gathered until March 6, 2019.

Type of Stock

Unit: Shares

Share Type	Authorized Capital			Allotment for Stock Option Certificate (Units)
	Issued Shares(Note 1)	Un-Issued Shares	Total Shares	
Common stock	12,424,318,715	13,575,681,285	26,000,000,000	2,000,000,000

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

Note 2: The data shown above was gathered until March 6, 2019.

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	70	680	519,948	1,613	522,325
Shareholding (Shares)	194,397,910	552,117,435	1,930,599,039	3,324,272,027	6,622,932,304	12,624,318,715
Percentage (%)	1.54	4.38	15.29	26.33	52.46	100.00

Note: The data shown above was recorded on July 22, 2018, which was the book closure date of 2018 First Extraordinary General Meeting.

Capital and Shares (Continue)

Shareholding Distribution Status

Common Shares

Class of Shareholding (Unit: Shares)		Number of Shareholders	Shareholding (Shares)	Percentage (%)
1~	999	197,598	61,229,053	0.49
1,000~	5,000	214,465	498,100,385	3.95
5,001~	10,000	53,521	395,731,820	3.13
10,001~	15,000	19,725	241,748,239	1.91
15,001~	20,000	10,635	189,246,999	1.50
20,001~	30,000	10,283	252,414,178	2.00
30,001~	50,000	7,349	286,447,966	2.27
50,001~	100,000	4,715	328,705,045	2.60
100,001~	200,000	2,004	277,468,511	2.20
200,001~	400,000	901	248,766,944	1.97
400,001~	600,000	271	132,610,460	1.05
600,001~	800,000	133	92,732,574	0.73
800,001~	1,000,000	96	86,972,342	0.69
	Over 1,000,001	629	9,532,144,199	75.51
Total		522,325	12,624,318,715	100.00

Note: The data shown above was recorded on July 22, 2018, which was the book closure date of 2018 First Extraordinary General Meeting.

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	719,383,700	5.70
JPMorgan Chase Bank N.A. Taipei Branch in custody for Capital World Growth and Income Fund	451,798,809	3.58
Hsun Chieh Investment Co., Ltd.	441,371,000	3.50
Silicon Integrated Systems Corp.	315,380,424	2.50
Silchester International Investors International Value Equity Trust	215,169,000	1.70
Prudential Assurance Company Ltd.	181,498,000	1.44
Yann Yuan Investment Co., Ltd.	172,000,000	1.36
Cathay Life Insurance Co., Ltd.	160,163,237	1.27
Taiwan Life Insurance Co., Ltd.	154,934,000	1.23
JPMorgan Chase Bank N.A. Taipei Branch in custody for EuroPacific Growth Fund	149,780,000	1.19

Note: The data shown above was recorded on July 22, 2018, which was the book closure date of the 2018 First Extraordinary General Meeting.

Capital and Shares (Continue)

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

In NTD

Item			2019 (Note 7)	2018	2017
Market Price Per Share (Note 1)	Highest		12.00	18.65	16.80
	Lowest		10.55	10.40	11.30
	Average		11.31	14.92	14.23
Net Worth Per Share	Before Distribution		-	17.28	17.45
	After Distribution		-	*	16.75
Earnings Per Share	Weighted Average Shares (shares)		-	12,103,879,632	12,208,239,978
	Earnings Per Share (Note 2)		-	0.58	0.79
	Earnings Per Share (Note 3)		-	*	0.79
Dividends Per Share	Cash Dividends		-	*	0.71164307
	Stock Dividends	Earning Distribution	-	*	-
		Capital Distribution	-	*	-
	Accumulated Undistributed Dividend		-	-	-
Return on Investment	Price/Earnings Ratio (Note 4)		-	25.83	17.30
	Price/Dividend Ratio (Note 5)		-	*	19.21
	Cash Dividend Yield (Note 6)		-	*	0.05

*Subject to change based on resolutions of the 2019 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 2019 was gathered until March 6, 2019.
Note 8: The average closing prices for years 2017, 2018 and 2019 were NTD 13.67, NTD 14.98, and NTD 11.37, respectively.

Capital and Shares (Continue)

Dividend Policy and Status

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%.

Proposed Distribution of Dividend

The Company's proposal for 2018 earnings distribution was passed during the 7th board meeting of the 14th term. This proposal, a cash dividend of NTD 6,916,104,855 from retained earnings (NTD 0.58 per share), will be discussed at the Annual General Meeting.

Effect of Share Dividends to Operating Performance and EPS

Not applicable.

Employees' and Directors' Compensation

Related Information of Employees' and Directors' Compensation in 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 0.1% 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' Compensation and Remuneration to Directors, 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 estimates the amounts of the employees' compensation and remuneration to directors and recognizes them in the profit or loss during the periods when earned for the years. The Board of Directors estimated 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' compensation and remuneration to directors 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 2018 distributable compensation for employees and directors was passed during the 7th board meeting of the 14th term. The distribution status is as follows: The Company is to distribute NTD 1,400,834,932 as employee cash compensation and NTD 7,623,740 as directors' compensation.

There is no difference between the amount passed during the Board meeting and the recognized amount during 2018 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.

Actual Distribution of Employees' Compensation and Directors' Remuneration for 2017:

In Thousand NTD

Item	Board Resolution (March 7, 2018)
Employees' compensation distributed in Cash	1,032,324
Remuneration to directors	11,452

Note: The aforementioned actual distribution of employees' compensation and remuneration to directors were consistent with the resolutions of the Board of Directors meeting held on March 7, 2018.

Issuance of Corporate Bonds

Name of Bond	United Microelectronics Corporation 4th Round of Unsecured Straight Bonds
Issue date	June 7, 2012
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; 1.43% p.a. and 1.63% p.a. for 5-year and 7-year bonds, respectively
Tenor and maturity date	5-year bond: June 7, 2017 7-year bond: June 7, 2019
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 June 2017 and June 2019 upon maturity. Interest will be paid annually for both 5-year and 7-year bonds.
Outstanding amount	NTD 2,500 million for the 7-year bond (Note)
Redemption clause	None
Restrictive clause	None
Name of credit rating agency, rating date and result of rating	Taiwan Ratings Corporation May 14, 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 June 7, 2017.

Buyback of Treasury Stock

Instance	19th round	18th round	17th round	16th round
Purpose	For cancellation	For cancellation	To transfer to employees	To transfer to employees
Buyback period	2018.11.06～2019.01.05	2018.03.08～2018.05.07	2016.05.12～2016.07.11	2015.07.30～2015.09.29
Price range (NTD)	7.55～20.80	9.85～21.30	7.90～18.70	7.55～18.80
Classification and executed volume (Shares)	300,000,000 Common shares	200,000,000 Common shares	200,000,000 Common shares	200,000,000 Common shares
Executed amount (NTD)	3,349,946,428	3,129,182,054	2,395,793,376	2,203,442,499
Cancellation and transfer volume (Shares)	0	200,000,000	0	200,000,000
Cumulative holding (Shares)	500,000,000	0	200,000,000	0
Cumulative holding as a percentage of total issued shares (%)	4.02	0	1.61	0

Note: The data shown above was gathered until March 6, 2019.

Issuance of Corporate Bonds (Continue)

Name of Bond	United Microelectronics Corporation 1st 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	NTD 2,500 million for the 7-year bond (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.

Issuance of Corporate Bonds (Continue)

Name of Bond	United Microelectronics Corporation 1st 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 2nd 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 a 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
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 on the Fixed Exchange Rate, and this fixed NTD amount will be converted using the Prevailing Rate for payment in USD.
Principal Payable	USD 600,000,000 as of March 6, 2019
Redemption or early redemption clause	(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. (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. (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. (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. (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. (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. (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. 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.

Issuance of Corporate Bonds (Continue)

Type		Currency Linked Zero Coupon Convertible Bonds due 2020
Covenant		-
Name of rating company, 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	-
	Policy of issuing or converting (exchangeable or warrant)	The bondholders may from June 28, 2015 to May 8, 2020 covert 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

Exchangeable Bonds Information

None

Euro Convertible Bonds Information

Type		Currency Linked Zero Coupon Convertible Bonds due 2020					
Item		Year					
		2019(Note)	2018	2017	2016	2015	2015.05.18 (Issue Date)
Convertible Price		NTD 14.8157	NTD 14.8157	NTD 15.4320	NTD 15.9895	NTD 16.7408	NTD 17.50
Market Price	High	USD 97.515	USD 124.583	USD 114.894	USD 95.625	USD 100.864	-
	Low	USD 95.185	USD 95.662	USD 92.255	USD 88.052	USD 87.579	-
	Average	USD 96.255	USD 110.480	USD 104.396	USD 92.453	USD 93.145	-
Issue Date		2015.05.18					
Reference Shares		Common shares					

Note: The date presented for 2019 was gathered until March 6, 2019

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
Depositary 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 143,204,659 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 March 6, 2019.

Note 2: On October 21, 2009, the Depositary 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)	2019			2018		
	High	Low	Average	High	Low	Average
	1.93	1.69	1.83	3.08	1.64	2.47

Note: The data represented for 2019 was gathered until March 6, 2019

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 Option Handling Status

The Processing Situation and Impact on Shareholders' Right from Employee Stock Option that have not Matured Yet

None.

Issuance of New Restricted Employee Shares

The Company did not issue Restricted Stock Awards during 2018 and as of the Annual Report Printing Date.

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 2018 and as of the Annual Report Printing Date.

Financing Plans and Execution Status

Not Applicable.

Operations Overview

Business Activities

Business Scope

UMC provides wafer fabrication 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 0.5 micron to 14nm. UMC continuously introduces competitive process technologies and complete solutions to enable chips to be designed according to specific customer requirements. Customers can select different processes according to their product application, such as embedded memory, high voltage, integrated bipolar/CMOS/depleted CMOS, MEMS sensor and mixed-signal/RF CMOS. UMC strives to provide comprehensive services, delivering customized platforms to meet the system-on-chip (SoC) needs of different customers.

In 2018, revenue contribution from UMC's wafer fabrication accounted for more than 95% of the company's total sales revenue, with the remainder generated from new R&D ventures and manufacturing of solar energy and next generation LED.

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. The incorporation of artificial intelligence (AI) 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, and low power consumption. In addition, in response to the constant miniaturization of semiconductor fabrication processes and costs considerations, development is heading towards larger diameter wafers. This trend has caused the entry barrier into semiconductor fabrication process technology to continuously increase, and the investment has also been growing exponentially.

With the constantly rising entry barriers of various semiconductor sectors from design, fabrication, packaging, and test, it is extremely difficult for semiconductor companies to have total control over every single sector. 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 and the effect on the overall environment 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 of 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) 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.

The semiconductor industry had a strong year in 2018, hitting record highs in terms of revenues, equipment, and silicon wafer shipments, mainly driven by the strong growth of memory products. The application of IoT, automotive electronics, AR/VR and artificial intelligence have created a major forward catalyst for the semiconductor market, which is going to be the primary driving force for the future growth of the semiconductor industry.

Summarizing the views from all major forecast agencies, the continuous and steady growth of domestic and international economies can be expected in 2019. Yet there are still some uncertainties which could affect future economic development. The most crucial keys are how the industry will navigate Donald Trump's economic decisions and the Sino-US Trade War, the slowdown of economic growth in China, conflicts in regional politics, decisions by the US 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. Within this context, UMC is cautiously expanding advanced 28nm process capacity while also increasing its 12-inch wafer foundry footprint with United Semiconductor (Xiamen) Co., Ltd, a joint venture fab with Xiamen Municipal People's Government and Fujian Electronic & Information Group that is intended to reduce risk and enhance services for the local China market. UMC has also dedicated R&D resources to advanced manufacturing and special process technology to continuously differentiate itself, thus enhancing the company's competitiveness through better product mix that will help strengthen profitability

Correlation Among Upstream, Midstream, and Downstream of Industry

The semiconductor industrial chain can be divided into IC design, mask, wafer fabrication, testing and packaging. 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 design support services and adequate silicon intellectual property (IP) as early as possible, and continuously optimize process technology to help IC design customers in their chip development. 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 four categories: Computer, Communication, Consumer, 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 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 as soon as possible in order to meet the needs of different customers of products resulting from the Internet of Things (IoT) generation.

Overview of Technology and R&D

R&D Expenses for the Past 5 Years

In Thousand NTD

	2018	2017	2016	2015	2014
Net operating revenues	151,252,571	149,284,706	147,870,124	144,830,421	140,012,076
Research and development expenses	13,025,139	13,669,589	13,532,356	12,174,824	13,663,874
Research and development expenses as a percentage of net operating revenues	8.61%	9.16%	9.15%	8.41%	9.76%

Note 1: The R&D expenses from 2014 to 2018 are determined according to the international financial report criteria approved by the Financial Supervisory Commission.
Note 2: The R&D expense for 2019 was calculated up until the publication date of March 6, 2019, which amounted to NTD 1,927,006 thousand.

Technologies or Products Successfully Developed within the Past 5 Years

Year	R&D Achievements
2014	• Successful development of 28nm HK/MG process technology and gradual launch of mass production after customer product qualification. • Achieved a mass production milestone of 15 million units for smartphone panel driver chips based on 55nm embedded high voltage process technology. • MEMS technology was adopted by New JRC, which expanded its MEMS microphone products to mass production.
2015	• Successful development of 14nm FinFET device with performance reaching leading industry levels. • Successful development of 28nm HPC+ (High Performance Compact Plus) process technology, which can provide lower leakage current and power consumption. It has been incorporated into customer's pilot production. • Successful development of 55nm embedded flash memory technology, which has been qualified by product verification and has entered mass production. • Successful development of TSV (Through-Silicon Via) for mass production, which can drive the outstanding performance of customer GPU products.
2016	• 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	• 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	• 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 products applications. • 14nm FinFET customized process has 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.

Overview of Technology and R&D (Continue)

UMC's R&D team has always been dedicated to promoting the development of advanced process technology. With the adherence to the belief of "Customer's 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 Tainan Science Park site, the company continues to recruit and train a large number of R&D talents. In 2018, UMC continued to significantly invest in R&D resources with total annual R&D expense reaching NTD 13.03 billion, which has led to fruitful R&D achievements in advanced and specialty technologies.

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. The introduction of 22nm by UMC has maximized the value of the company's 28nm process, with IP verification from 28nm directly converting to 22nm being relatively easy due to the use of compatible design specifications. UMC's 22nm process is expected to be completed in the middle of 2019 and introduced to customers for pilot production.

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 leading industry standards. In 2018, UMC's other 14nm project (14FFC FinFET process platform) reached mass production quality levels for product yield and has passed process and product reliability verification. Currently several customers have already designed products using UMC's 14FFC platform and have entered the pilot production stage, with cooperation with other customers ongoing. UMC's 14FFC is expected to be ready for customer mass production in 2019.

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. For this R&D plan, UMC has integrated all existing machines in the company while drawing upon its mass production experience for previous generations of eFlash memory (55nm/40nm). It is expected that this technology can be incorporated into 28/22nm to be used by customers in 2021.

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, TV, digital camera, on-board screen, and wearable display. UMC's High Voltage Technology has led the development of various voltages to meet the specifications requirements of various application markets. UMC was the first in the foundry industry to introduce a 40nm High Voltage Process, and the mass production has been achieved for high-end LCD Display and high-end OLED Display markets. Meanwhile, the 28nm High Voltage Platform has entered pilot production. 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 0.5, 0.35, 0.25, 0.18, and 0.11

micron 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, and adopted a 12-inch 55nm copper process for PMIC as a complete SoC solution for energy-saving demands.

CMOS Image Sensor (CIS), MEMS, and RF SOI 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. UMC's MEMS microphone process platform can help many customers shorten their design process flow. UMC's total shipments for MEMS microphone products in 2018 exceeded 400 million units. CMOS-MEMS gas sensor has entered mass production, and optical communication integrated chip (ICR/ICT) is in the pilot production stage.

UMC has developed RF SOI process technology, and its unique substrate characteristics can prevent harmonics distortion of high frequency signals and reduce power loss. Currently, 0.13um and 0.11um RF SOI process technologies have both entered mass production, and the produced chips have been widely used by smartphone makers. Next generation 90nm and 65nm RF SOI are in the R&D stage.

Non-Volatile Flash Memory

UMC has always been dedicated to providing customers with complete SoC solutions, among which the non-volatile flash memory device is the essential device 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 also successfully entered the mass production stage. The MCU products equipped with 40nm embedded charge trap (eCT) flash memory is also in mass production. The 40nm technology platform with SST (Silicon Storage Technology) embedded SuperFlash® non-volatile memory has also 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 in 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.

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 provides the 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.

Overview of Technology and R&D (Continue)

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 110, 90, 65, 55, 40, 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. The number of granted patents has been growing steadily. The company was granted a total of 423 domestic and foreign patents in 2018, 337 of which are US patents, 56 ROC patents, and 30 China patents. The total accumulated number of UMC's patents is 12,991, 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 Plan

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 special technologies and advanced processes, enhance capacity utilization rate, and strengthen profitability. Currently UMC owns three 12-inch fabs. In addition to the mass production of 14nm products, 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, we continue to conduct structural productivity enhancements and manufacturing capacity optimization of 8-inch and 12-inch fabs to embrace new opportunities and improve revenue.

Medium-to-Long-Term Objectives

Process technology R&D has always been a primary focus of UMC. The R&D of advanced processes and equipment procurement will be more efficiently and actively managed, 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 process technology platforms to meet customers' needs. UMC's capital expenditure for 2019 is expected to be approximately USD 1 billion. 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 supply chain, UMC is dedicated to the support of various environmental protection activities and the promotion of environmental protection education.

Outstanding UMC Achievements in 2018

- UMC Singapore Branch (Fab 12i) was granted the National Water Resources Achievement Award.
- UMC was granted the Electronics Technology Group Role Model Award of the 2018 Global Views Monthly Corporate Social Responsibility Award.
- UMC was recognized as Top Level by "Corporate Governance Evaluation" for the fourth consecutive year.
- UMC signed a long-term wafer foundry cooperation agreement with US company Allegro.
- UMC worked with US company Avalanche on technical development of eMRAM and relevant 28nm products.
- UMC was included as a DJSI constituent stock for the 11th consecutive year.
- UMC was granted the Platinum Award of the 2018 Taiwan Corporate Sustainability Awards.
- UMC was granted the ROC Enterprise Environmental Protection Award for 16 consecutive years.

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 50% and 38% of UMC's total sales revenues, respectively. Europe and Japan accounted for 12% of total sales revenues. In the future UMC will continue to strengthen its cooperation with world-class customers in all regions and focus on the development of high-end products for customers in order to ensure consistent medium and long-term growth for UMC.

Market Share

UMC is a world leading semiconductor wafer foundry. The total revenue of the global pure-play wafer foundry market in 2018 was approximately USD 63.4 billion. According to the estimation by market survey institution Gartner, UMC has a 7.7% share of the pure-play wafer foundry, and its main competitors are TSMC, Globalfoundries and SMIC. In 2018, the total operating income of these four companies accounted for 86.5% of total pure-play wafer foundry market.

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 2018 was close to USD 477.9 billion, which has grown by 15.9% from 2017. The growth of semiconductor sales revenue in 2019 is expected to slow to mid-to-low single-digit growth.
- Looking forward to the driving force behind 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 has relatively high market share in China and Asia Pacific markets, which account for 50% of total UMC revenue. According to a report by SIA, in 2018 the growth of semiconductor sales was the greatest in China at 23%, followed by the 14% in America, 7% in Europe, 5.5% in Japan, and 3.7% in other Asia Pacific regions. There has been prosperous development of IC design houses in China in recent years. Geographical proximity, similar culture, the acquisition of HJTC, and the operation of a 12-inch fab in Xiamen have all helped UMC gain a good position in the global market and increase market share. It has also enabled UMC to conduct integration of products, orders, and process technologies in response to customers' needs in order to pursue the relative competitive advantages of China's market expansion and operational scale; it is expected that UMC can benefit from the rapid growth in this regional market.
- UMC is optimistic about the demand for high-end chips in the future market of mobile communication and computation; thus proper capital expenditure to promote the R&D of related processes and the establishment of advanced production capacity has been conducted. The company has also actively deployed its 28nm solution to continue working with leading customers to pursue more flagship products. UMC is committed to providing sufficient production capacity and to establish an open technical platform with our 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 trend of IC design and fabrication vertical division of labor, there has been prosperous development of the pure-play wafer foundry market and rapid 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 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 of 12-inch wafer fab manufacturing capabilities, owning a 12-inch fab in the Tainan Science Park, one in Singapore, and another in Xiamen, China. As

for the future investment in 12-inch fabs, the production capacity will be further expanded according to customer needs and market application trends.

- UMC is in mass production of 14nm advanced process. UMC is one of the very few professional wafer foundries that can provide such process technology to help customers profit and reduce production cost. In addition, UMC's 28nm production technology has been adopted for mass production from multiple IC design houses, which will further strengthen the long-term competitiveness of UMC.
- The FinFET 3D transistor process technology developed by UMC can serve as a strengthened option for low power consumption technology used in mobile computation and communication products. Through a technology licensing agreement with IBM, UMC engineers accomplished good R&D progress with mass production launched in the second half of 2017.
- The RF SOI process developed by UMC can serve as a complete solution for wireless communication products. In addition to the switches for front-end RF modules, UMC can also provide advanced processes for switches for antenna tuning and power amplifiers in order to meet customer needs for RF SOI, and to meet customer expectations for both production capacity and delivery time.
- In response to the development trend of electronic products, UMC has developed SOI technologies, as well as specialty technologies including embedded memory, 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.
- 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 20 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 its customer is in successful mass production and has been provided to end customers in various fields, including medical products and automobile gas flow sensors. Currently the customer has successfully sent samples to major mobile phone makers to be tested.
- UMC has 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. With top-notch TSV and front-end wafer processes provided by foundry fabs, highly innovative mid-to-rear-end 3D IC stacking, and packaging and testing from back-end service providers, a complementary and complete platform can be formed to provide a reliable 2.5D/3D IC solution for the semiconductor market.
- UMC has established the most powerful IoT specialized 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 lower power consumption technology in order to meet the specific requirements to enter the IoT and wearable electronic device markets; pilot production of UMC's 22uLP was launched by the end of 2018, and mass production is scheduled for 2019.
- UMC's 14nm (FinFET) process technology 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 Internet, 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%.

Unfavorable Factors for Development Outlook

- Due to the optimism of future long-term annual growth of semiconductor demand, all major global pure-play wafer foundries and China have increased their capital expenditures for expansion of production capacity based on advanced processes, which could lead to an imbalance of supply and demand in the future market.

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.
- Expanding the footprint of 12-inch fabs through investment participation and strategic alliances to reduce the time, risk, and cost of construction of new fabs and to serve local markets.
- 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's production capacity demands at various stages.
- In response to the addition of new competitors, UMC continues to enhance development of advanced processes, and to maintain the existing advantages of stable high yield and complete services. The benefits of these are twofold: UMC can increase the lead against new competitors while also creating differentiation such that UMC can continue to be the best option for its customers.
- Providing 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.

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, and 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.
- RF SOI process: for fabricating wireless front-end chips, such as wireless switch, tuner used by mobile phones, WLAN, and wireless base station.

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 technologies, materials, and equipment required by their IC design.

Status of Supply of Primary Raw Material

Type of Primary Raw Material	Primary Suppliers	Market Status of Suppliers	Procurement Strategy
Silicon wafer	• 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 US, Japan, Germany, Italy, Korea, Taiwan, and Southeast Asia. They can offer steady and high quality silicon wafers.	1. 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. 2. In recent years the ratio of procurement from local makers has increased, which can reduce the risk of international transportation and procurement cost. 3. 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.

Major Suppliers

In Thousand NTD

Name	2018			2017		
	Amount	Percentage of Net Total Supplies	Relation to UMC	Amount	Percentage of Net Total Supplies	Relation to UMC
Supplier " A"	5,277,316	12	None	3,770,829	9	None
Others	37,620,283	88		36,819,141	91	
Net Total Supplies	42,897,599	100		40,589,970	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 procurement amount: No major changes.

Major Customers

In Thousand NTD

Name	2018			2017		
	Amount	Percentage of Net Operating Revenues	Relation to UMC	Amount	Percentage of Net Operating Revenues	Relation to UMC
Customer "A"	15,357,470	10	None	15,632,722	10	None
Others	135,895,101	90		133,651,984	90	
Total Net Operating Revenues	151,252,571	100		149,284,706	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: No major changes.

Production Figures

Segments	Unit	2018 Capacity	2018 Production Quantity	2018 Production Value (in Thousand NTD)	2017 Capacity	2017 Production Quantity	2017 Production Value (in Thousand NTD)
Wafer Fabrication	in Thousands of 8-inch Wafer Equivalents	7,673	7,145	122,845,827	7,304	6,893	117,627,129
New Business				413,129			536,410
Total				123,258,956			118,163,539

Sales Figures

Segments	Unit		2018 Shipments	2018 Amount (in Thousand NTD)	2017 Shipments	2017 Amount (in Thousand NTD)
Wafer Fabrication	in Thousands of 8-inch Wafer Equivalents	Domestic	3,077	54,444,141	2,787	48,723,790
		Export	4,031	89,185,989	4,050	95,493,937
New Business		Domestic		82,376		125,123
		Export		73,581		111,820
Total		Domestic		54,526,517		48,848,913
		Export		89,259,570		95,605,757

Industry Specific Key Performance Indicators

KPI	2018 Target	2018 Actual	2018 Difference
Utilization Rate	93.4%	93.1%	-0.3ppts
Wafer Sales Contributed from 40nm and below Technologies	44.3%	40.5%	-3.8ppts

Employees

Number of Workers

	2019	2018	2017
Engineer	11,544	11,651	11,846
Administrator	747	753	753
Clerk	29	31	45
Technician	7,250	7,494	7,432
Total	19,570	19,929	20,076

Average Age

	2019	2018	2017
Average age	35.8	35.4	35.0

Average Service Years

	2019	2018	2017
Average service years	8.9	8.7	8.0

Educational Distribution Ratio (%)

	2019	2018	2017
Ph.D	1.7	1.7	1.7
Master	29.6	29.4	29.3
Bachelor/Associate/Diploma	48.7	48.5	48.1
High school and below	20.0	20.4	20.9

Note: The data represented for 2019 was gathered until March 6, 2019.

Environmental Expenditure Information

By the publication date of the 2018 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 (ISO 14001) 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 2018, the total environmental protection related expenditures for all UMC fabs have exceeded NTD 2.39 billion. The environmental related expenditures include investment in highly efficient pollution prevention technology and preventive equipment, totaling NTD 850 million. The monthly pollution prevention expenses and O&M of pollution prevention equipment exceeded NTD 96 million, while the monthly waste disposal cost exceeded NTD 23 million. Meanwhile, NTD 6.3 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 670,000 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 Ministry of Labor and other organizations for excellence in labor welfare, labor education, labor relations and human resource innovation, 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.

At the same time, UMC has also won various corporate sustainability awards in 2018. For corporate sustainability, UMC ranked in the top 5% for corporate self-governance, and has won the Global Views Monthly Corporate Social Responsibility Award and the Global Views Monthly CSR Survey - Electronic Technology Group Exemplary Award. In addition, UMC has been listed on the Dow Jones Sustainability Index (DJSI) for 11 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 talents are the cornerstone of UMC's competitiveness, and all-round talent development and cultivation is the key 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 2018, UMC has conducted a total of 9,105 training sessions, totaling 17,399 hours of training, 342,566 participants and total training expenses of NTD 55,869,585.

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 inexperienced 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 positive attitude also help new employees understand the spirit and values of UMC. To help new employees quickly develop professionalism and 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 began promoting inter-divisional training courses in 2008 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, inside trading prevention and conflict of interest are conducted within the Company and promoted on the

Planning Section in the UMC homepage. 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 to 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.
- Recreation Center: UMC's Hsinchu location is equipped with a Recreation Center, while Tainan Fab 12A is equipped with the UMC Park Activity Center, a multi-purpose sports center and gym. The company dormitory also has a gym. In addition, other facilities such as gyms and aerobic classrooms are installed within 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 six 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 2018, UMC had a total of 27 clubs and about 2,200 participants.
- Accommodation and transportation assistance: UMC provides safe and comfortable accommodations for both direct and indirect labor. Free scheduled transportation and shuttle services are also provided for convenient and quick connections.

At the same time, UMC optimized the Welfare Information platform in 2018 and introduced the Welfare Club APP; through geo-positioning, 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 in the Workplace, and regulations for leaves such as personal ,sick, maternity, paternity, menstrual, family care, marital, bereavement, occupational sickness, annual, parental and nursing leave.

In particular, UMC was 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 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 Health

UMC is convinced that only employees who are physical and mentally healthy can be highly efficient and produce excellent work performance. Therefore, UMC has a longstanding commitment to creating a workplace environment that is physically, mentally and spiritually healthy. 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.

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 helped to address 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 2018, UMC adopted the "Go! Profit Without Sacrifice, Take Charge of Your Health" comprehensive health theme, 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, health check for employees and hospital check-ups for their families are provided annually, and the results analyzed. A variety of health promoting activities and education are then organized for employees accordingly to give employees 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 mechanism for potential occupational chronic injury and disease, regular noise inspection and vision care program to effectively prevent occupational injuries. Moreover, as of 2018, UMC's IT divisions have integrated their existing systems to construct a new Health Care System for employees. In addition to allowing employees to instantly access their health check report and consult with medical staff online, the system increases the daily follow-up rate by the medical care team. In addition to regulatory annual checkups, UMC also offers a variety of screening and health promoting activities such as cancer screening for women (PAP smear, gynecological ultrasound, breast ultrasound), 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.

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 a long-term business relationship 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, 2013～Dec 31, 2018	Sales and related services for semiconductor products	None
Sales	United Microelectronics (Europe) B.V.	Jan 1,2018～Dec 31, 2022	Marketing support service for semiconductor products	None
Sales	UMC Group Japan Co., Ltd.	Jan 1, 2018～Dec 31, 2022	Sales and related services for semiconductor products	None
Sales	UMC Korea Co., Ltd.	Jan 1,2018～Dec 31,2018 Jan 1,2019～Dec 31,2019	Marketing support service for semiconductor products	None
Purchase	Shin-Etsu Handotai Taiwan Co., Ltd.	Indefinite	wafer material supply	None

Patent and Technology License

UMC values and protects intellectual property rights. With over 30 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	MOSAID Technologies Incorporated & MOSAID (Taiwan) Inc.	Feb 8, 2013～Feb 8, 2018	Patent license for semiconductor process.	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 General IP Pte. Ltd.	Jan 1, 2014～Dec 31, 2018 Sep 29, 2019～Dec 31, 2023	Patent cross-license for semiconductor component related patents.	None
Patent license	NXP B.V.	Sep 30, 2015～Sep 29, 2020	Patent license and assignment of right for patent application.	None
Technology license	United Semiconductor (Xiamen) Co., Ltd.	Dec 1, 2015～Dec 31, 2019	UMC licensed its 55/40nm 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.	Apr 1, 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.

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	None

Construction

Contract Type	Contracted Party	Contract Date	Key Content	Restrictive Clause
Construction	Wholetech System Hitech Limited, Sumitronics Taiwan Co., Ltd., K. J. Filtration Technologies Ltd., Versum Materials Taiwan Co., Ltd. and others.	From Jan, 2018	For building the facilities of Fab 12A, Phase 5 in the Tainan Science Park, UMC signed construction contracts with the vendors listed in the second column. The total contracted amount exceeded NTD 1.2 billion.	None
Construction	L&K Engineering (Suzhou) Co., Ltd., Wholetech Group (Shanghai) Trading Co. Ltd., Jiashan Tanhou Semiconductor Exhaust Industry Co., Ltd. and others.	From Jan, 2018	United Semiconductor (Xiamen) Co., Ltd. entered into construction contracts with the vendors listed in the second column for building fab facilities. The total contracted amount exceeded USD 13.3 million.	None
Construction	L&K Engineering (Suzhou) Co., Ltd., Shanghai Nomura Engineering Co., Ltd., Tanhou (Shanghai) Semiconductor Exhaust Industry Co., Ltd., Shanghai Construction No.7 (Group) Co., Ltd. and others.	From Jan, 2018	HeJian Technology (Suzhou) Co., Ltd. entered into construction contracts with the vendors listed in the second column for fab expansion and facilities building. The total contracted amount exceeded RMB 110 million.	None

Review of Financial Position, Operating Results, Risk Management

Financial Position

In Thousand NTD

	2018	2017	Differences	Differences (%)
Current assets	141,193,432	139,160,486	2,032,946	1
Property, plant and equipment	172,846,595	205,741,681	(32,895,086)	(16)
Intangible assets	2,991,804	3,787,509	(795,705)	(21)
Other assets	47,573,075	45,409,486	2,163,589	5
Total assets	364,604,906	394,099,162	(29,494,256)	(7)
Current liabilities	49,899,337	88,061,070	(38,161,733)	(43)
Non-current liabilities	108,169,078	92,000,508	16,168,570	18
Total liabilities	158,068,415	180,061,578	(21,993,163)	(12)
Capital	124,243,187	126,243,187	(2,000,000)	(2)
Additional paid-in capital	40,399,363	40,858,350	(458,987)	(1)
Retained earnings	61,588,543	48,065,899	13,522,644	28
Total equity	206,536,491	214,037,584	(7,501,093)	(4)

Analysis of deviation of over 20% between 2018 and 2017:

1. Intangible assets:
   Due to decrease in amortization of other intangible assets and patent and technology license fee.
2. Current liabilities:
   Due to decrease in repayments of short-term loans and current portion of long-term liabilities.
3. Retained earnings:
   Due to increase in net income and the net impact of retroactive applications of IFRS 9.

Financial Performance

In Thousand NTD

Items / Years	2018	2017	Differences	Differences (%)
Operating revenues	151,252,571	149,284,706	1,967,865	1
Operating costs	(128,412,544)	(122,226,948)	(6,185,596)	5
Gross profit	22,840,027	27,057,758	(4,217,731)	(16)
Operating expenses	(22,159,679)	(22,143,132)	(16,547)	0
Net other operating income and expenses	5,116,884	1,653,695	3,463,189	209
Operating income	5,797,232	6,568,321	(771,089)	(12)
Non-operating income and expenses	(3,612,833)	1,230,101	(4,842,934)	(394)
Income from continuing operations before income tax	2,184,399	7,798,422	(5,614,023)	(72)
Income tax benefit (expense)	458,653	(1,167,157)	1,625,810	(139)
Net income	2,643,052	6,631,265	(3,988,213)	(60)

Analysis of deviation of over 20% between 2018 and 2017:

1. Net other operating income and expenses
   Due to increase in amortization of deferred government grants.
2. Non-operating income and expenses
   Due to increase in net loss of financial assets and liabilities at fair value through profit or loss and net exchange loss.
3. Income from continuing operations before income tax
   Due to decrease in gross profit, increase in net loss of financial assets and liabilities at fair value through profit or loss caused by stock market volatility and increase in net exchange loss.
4. Income tax benefit (expense)
   Due to decrease in income tax expense caused by decrease in income from continuing operations before income tax and increase in gain on deferred income tax related to changes in tax rates.

Cash Flows

Analysis of Cash Flow for the Year ended December 31, 2018

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
81,674,572	50,934,976	(48,947,809)	83,661,739	-	-

Note: Net cash flow from investing and financing activities includes the effect of exchange rate changes of NT$36,680.

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 capital expenditures, which are partially offset by government grants.
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 loans.
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
83,661,739	49,340,937	(53,556,223)	79,446,453	-	-

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 2018)	Total Amount (Up To 2018)	Capital Expenditures Plan	
					2018	2017
Wafer Fabrication	Production Equipment	Cash flows generated from operations, bank loans and issuance of bonds	Completed	60,270,509	18,350,545	41,919,964
	R&D Equipment	Cash flows generated from operations, bank loans and issuance of bonds	Completed	3,548,749	1,239,225	2,309,524
New Business	Production and R&D Equipment	Cash flows generated from operations and bank loans	Completed	7,093	305	6,788

Expected Benefit from Capital Expenditures

Based on aforementioned capital expenditures, in 2018 the ratio of production capacity from high-end processes of 40nm or below is above 35%, of which the production capacity for high-end 28nm or below has grown by 13% from the previous year.

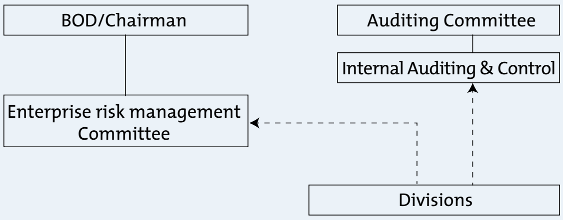
Main Reasons and Improvement Plans for Recent Annual Reinvestment Policies and Profit or Loss, and Investment Plans for the Coming Year

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, UMC and its subsidiaries have invested about USD 1.35 billion into United Semiconductor (Xiamen) Co., Ltd. over a period of five years since 2015 in accordance with the projected plan. As of December 31, 2018, a total capital of USD 1.22 billion has been invested into the Company's Xiamen 12-inch fab for 28-55nm wafer service to pursue further growth of the Company.

In 2009, UMC established UMC New Business Investment Corp., which mainly invested in the solar energy and LED industries. However, due to continuously sluggish market conditions, the company was merged into Fortune Venture Capital Corp., a UMC's subsidiary, on July 1, 2018 to improve the Group's operational efficiency. 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 Architecture



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

Estimated annual R&D expenses for the next three years

Item/Year	2019	2020	2021
R&D expenses	Not applicable	Not applicable	Not applicable
Net operating income (undisclosed financial forecast of the company)	Not applicable	Not applicable	Not applicable
The share of R&D expenses to net operating income	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
22nm process technology	22nm ultra-low power /ultra-low leakage technology development by securing strategic customers, determining device specifications and starting new process technology development. The process development is expected to be completed with customer product pilot production starting in mid-2019.	NTD 1.5 billion	2019	Customer circuit design verification and product yield have been qualified to mass production standards.
14nm process technology	Mass production for the customer using UMC's customized 14nm FinFET process has been successfully launched. The development of UMC's 14nm FinFET process platform has also been completed, which has passed reliability verification. Currently it has officially entered pilot production for customer chips. The milestone of customer product mass production is expected to be achieved in 2019.	NTD 1.6 billion	2019	The lead customer has launched product pilot production using UMC's 14nm FinFET process platform.
Embedded magneto-resistive memory	Relevant process development and verification should be conducted according to the development project schedule for embedded magneto-resistive memory.	NTD 1.5 billion	2021	Customer's circuit design verification and product yield have been qualified to mass production standards.
Special technology R&D	Development and verification of 90/55/40/28nm specialty technology platform (including HV, CIS, eFlash, RF SOI, etc.)	NTD 500 million	2020	• Cooperating with customers to create a win-win situation. • Completing IP verification on time. • Quality verification is in compliance with customer requirements.

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 2018, 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 advanced 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 IDM and Fabless, 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 talents 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 Tainan Science Park with sufficient funds for enriching the overall R&D resources. In 2018, UMC's R&D led to fruitful achievement. Mass production optimization has been ongoing 28nm; 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 in response to the demand for the future IoT era. Currently, UMC has provided the design specifications of the first version to customers for design-in purposes, and pilot production is expected in 2019. In terms of 14nm process technology, high performance FinFET device and high yield SRAM have also been successfully developed for UMC's 14nm FFC platform, which has entered the customer chip mass production stage. Mass production wafer yield for this process has also reached industry competitive levels with wafers shipped to the primary customer already. The cooperation with other customers regarding this 14nm process has also been in progress. UMC's R&D team will continue with the optimization of 14nm to take the full advantages of the performance, power consumption, and gate density of 14nm FinFET in order to drive next generation Internet, AI, and consumer product applications. 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 RF SOI.

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

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 the bank loans as of December 31, 2018, if the interest rate increases/decreases by 10 basis points, the Company's net profit for 2018 will decrease/increase by NTD 43,930 thousand. In order to reduce interest rate risk, the Company continues to monitor changes in market 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, 2018, when the NT dollar strengthens/weakens by 10 percent against the US dollar, the Company's net profit for 2018 will decrease/ increase by NTD 1,367,271 thousand. On the other hand, when the Chinese Yuan strengthens/ weakens by 10 percent against the US dollar, the Company's net profit for 2018 will increase/decrease by NTD 2,623,900 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 situation of inflation variation from early 2018 to today: the average growth of the consumer price index (CPI) in Taiwan in 2018 was around 1.98%. Even though there was a YoY decline of 0.05% for December, the annual average was kept at 1.98%, thus indicating a rather stable price trend without any concern of inflation.

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 with 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 13.03 billion in research and development in 2018. 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 650 million in capital expenditure during 2018. UMC will continue to invest in existing logic and specialty technologies, expanding 8” and 12” capacity and driving internal operational efficiencies. 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.

Expected Benefits, Possible Risks and Response Measures for Mergers and Acquisitions.

With UMC's customers located all over the world and given the Company's business philosophy of continuously improving the 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 the 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. After the transaction is completed, the acquired company will become 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. On the other hand, UMC's overall value can be increased and shareholder interests can be enhanced.

The main risk of cross-border merger and acquisition involves integration and compliance with the regulations and compliance of various countries. To comply with the regulations of related authorities for equity purchase or merger and acquisition, UMC conducts careful planning and consultation with professionals from the respective countries. The goal is to not only complete equity purchases or mergers, but also to strategically plan to sustain future business and maximize shareholders’ interest.

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 customers’ 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 Responsive 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 Responsive Measures

UMC has established long-term steady cooperation with multiple world-class customers, and the long-term steady growth of the company can be ensured by combining the competitive edges of UMC and these customers. In 2018, the total sales revenues of UMC's top 10 customers accounted for approximately 51% of UMC's total sales 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 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 July 1, 2016, International Business Machines Corporation (IBM) filed a complaint in the United States District Court for the Southern District of New York alleging that UMC failed to pay the technology license fees in accordance with the technology license agreement and claimed USD 10 million with interest of 12% per annum. UMC appealed a judgment issued on September 15, 2017 by the United States District Court of Southern District of New York for the subject matter. The appeal is still on trial. Since the final judgement has not been issued, UMC cannot make reliable estimate of the financial effect of the litigation.

On August 31, 2017, the Taichung District Prosecutors Office indicted UMC for the Trade Secret Act of R.O.C., alleging that employees of UMC misappropriated the trade secrets

Risk Management and Evaluation (Continue)

of MICRON TECHNOLOGY INC. (MICRON). 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. The case is currently in progress and UMC has appointed counsels to prepare answers against these charges.

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 ruled 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 lawsuit filed by UMC is 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. The indictment and civil complaint are still on trial. UMC has suspended the joint technology development activities with JINHUA and appointed counsel to prepare answers against these charges. Given these litigations are still in the preliminary stages, UMC cannot assess the legal proceeding and probable outcome or impact.

Risk of Climate Change

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

It has become a global consensus that climate change will result in economic loss. The inevitable global carbon risk 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.

In addition to the risks resulting from climate change, UMC also sees opportunities. In 2010, UMC was the first in the industry to announce a comprehensive climate change policy as the criteria for the company in response to the era of carbon restriction. UMC has also actively implemented measures in response to climate change. For example, to reduce the emissions from fluorinated greenhouse gases used in by 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 C_2F_6 with C_3F_8 and C_3F_8 with C_4F_8) 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.

Additionally, natural disasters possibly caused by climate change, including drought, flood, extreme weather, and rising sea level, could lead to impact on corporate operations. UMC's fabs are located on islands, such as Taiwan and Singapore, so they are more sensitive to the effects of climate change. UMC has taken into consideration the risk of disaster introduced by climate change during fab construction, and the company will continue to review and improve by following the ISO 22301 Business Continuity Management System.

At its current stage, UMC has conducted the analysis of climate change risk according to the aspects of policies and laws and regulations, variation of market and technology, business reputation, and physical risks in order to determine the responsive measures to reduce the potential impacts. Meanwhile, considering its core technology and manpower, UMC has also been seeking opportunities to enhance operational competitive edges based on the aspects of resources efficiency, energy source, products, services, market, and business reputation. 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.

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 conduct professional training to teach emergency response capabilities to employees, while having the ability to respond onsite in case of disaster.

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 in 2018 for further enhancement of personal safety and reduction of risks associated with losses of machine and equipment due to earthquake.

Responses to Climate Change Risk

UMC has always cared 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, and water truck contract and rehearsals can be prepared in advance to reduce any risk to operations.

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 ISO 22301 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 ISO 22301 Business Continuity Management System Certificate after only its first evaluation. 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 communication with, fight for and protect the rights and interests of its customers and stakeholders.

Risk Management and Evaluation (Continue)

Enterprise Information Security Risk Management

Risk Management Organization Structure

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 and prioritize risk response strategies for major risk issues across the company. It is combined with internal audit functions to ensure that the operational risks associated with operations are properly managed. 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, and working together with the "Information Technology Division" to further strengthen information security.

Information Security Policy

UMC's information security policy is based on the guiding principle: "To establish Information Security Management rules in accordance to regulations and customer's requirement, 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

The Enterprise Risk Management Committee integrates the identified various risk items, including strategy, operations, finance, disasters, etc., assesses the likelihood and severity of the occurrence, defines the priority order and risk level of the risk items, and takes the risk of response. The management plan periodically reviews the potential occurrence of risks and the potential for changes in severity over time to grasp the effectiveness of risk management plans and related control operations.

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 certification includes ISO15408, ISO22301 and ISO27001. The Company has also established corresponding risk management committees to promote standardization processes and reduce the risk of business operations. Please refer to the company website for related certification information. http://www.umc.com/English/CSR/b_5.asp.

Assessment of Information Security and Cyber Risks

UMC pays special attention to the security risks from external intrusion, and builds a complete multi-layer defense mechanism including firewall, intrusion detection, antivirus system, vulnerability scanning, patch management procedure and penetration testing, etc. The annual self-assessment on cyber security defense capability is about an average of 3 to 4 points (corresponding to Defined ~ Managed level in InfoSec Maturity Model). The found weakness items are listed as annual projects for consistent improvement. In addition to internal self-assessment, the Company also leverages a professional international security company's resources to help on overall security healthy inspection as a trusted third party verification and a basis for further improvement.

Information Security Management System

UMC is an ADR issuing company. Since January 2006, internal control processes must comply with the Sarbanes-Oxley Act (SOX 404). In compliance with SOX 404 specifications, UMC has conducted security program compliance certification for its key financial processes. In the following year, UMC further strengthened its information security by introducing the ISO 27001 information security management system certification to operate its information system under the standard management regulations. This will reduce security loopholes and production abnormalities caused by human error. In addition, through the annual operation reviews, continuous improvements will be made to the Plan-Do-Check-Act (PDCA) cycle.

In 2014, a cross-division security committee was established. Based on the need to produce secure products like smart card, the Company decided to introduce ISO 15408 (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 the entire production line. 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, hacking event in Taiwan and the world, together with the ransomware incident of 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 attacks 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 became effective in Jan. 2019 with a retroactive option that can trace back to stealth threats existing in the company prior to the effective date. The initial insurance amount is set to be USD 10 million and covering 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 cyberattack.

The Impact of Occurred Major Security Incidents and Corresponding Response Measures

UMC had a major WannaCry ransomware incident in 2016, causing 42 Servers/PC/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. In recent years, this was considered a relatively serious virus incident. In addition to immediately upgrading to new versions 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 the production line network to grant necessary access between equipment tools, which can block viruses from spreading and limit the impact to a small scale. After the virus incident in 2018, SEMICON Taiwan formed a member task force that included UMC to co-study equipment information security standards and contribute as a responsible 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 reinvented, defense systems are faced with zero-day attack limitations; past defense achievements do not necessarily mean or guarantee that anomalies will not happen in the future. Enterprises must keep pace with the times and confront the ever-changing and growing information security threat. Information security has a long way to go and requires continuous improvement. UMC will uphold its corporate culture of "Customer-orientation, Integrity, Innovation, Accountability, Efficiency" and fulfill its ”due care/due diligence” management responsibility to provide customers with a secure production environment to reduce operational risk and reward shareholders with the highest investment value as possible.

Other Significant Risks

None.

Note: The analysis and valuation of Risk Items shown above include the data during 2018 and as of the Annual Report Printing Date.

Other Necessary Supplements

None.

Social Responsibility

Description of Corporate Social Responsibility

At UMC, not only does the company regard Corporate Social Responsibility (CSR) as a primary aspect of its corporate culture, all employees are expected to act as corporate social responsibility role models so that UMC can achieve its goal of pursuing sustainable operation to give back to society and care for social development.

In 2018, UMC was awarded with multiple honors related to corporate social responsibility, including Taiwan Corporate Sustainability Report Award, Green Procurement Award, Occupational Safety and Health Award, and Enterprises Environmental Protection Award. Meanwhile, UMC has been listed as one of the DJSI-World constituent stocks of DJSI (Dow Jones Sustainability Indices) for 11 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.

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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 solution as well as an implementer of low carbon actions. UMC established "Fluorinated Greenhouse Gases Reduction Work Group" as early as 1999 in response to global warming, and it achieved its 2010 voluntary reduction goal outlined by Taiwan Semiconductor Industry Association ahead of schedule. On Earth Day (April 22) in 2010, 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 as 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 2018, 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 the third party verification audit of Hazardous Substance Process Management (HSPM) system, and UMC became the first company in the world to acquire QC-080000 IECQ HSPM certificate 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. UMC also actively promotes green supply chain projects to help customers produce green products with lower environmental impact and to enhance the sustainable competitiveness of the entire supply chain.

UMC's Corporate Social Responsibility Report issued in 2018 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 11th 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

Description of Corporate Social Responsibility (Continue)

members, and the director general 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 as described below:

Corporate Governance Committee

Help strengthen the function of the Board and shareholder equity, integrate related regulations and policies of relevant departments, and help complete and implement the company's internal control system to ensure information transparency and disclosure, and compliance with regulations. Thus, operation philosophy such as core value of integrity and honesty, transparency of information, focus on the shareholder equity and fine internal control can be fulfilled.

Customer Relationship Management Committee

Refine customer service and quality control, improve service quality and customer satisfaction, and protect 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

Promote green product research and development and innovations, and lead 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. Integrate the UMC Science and Culture Foundation, and with focus on education, arts, sports, public service and environmental protection, strive to promote technological research and development cooperation, long-term educational assistance, arts and sports activities and other social welfare events.

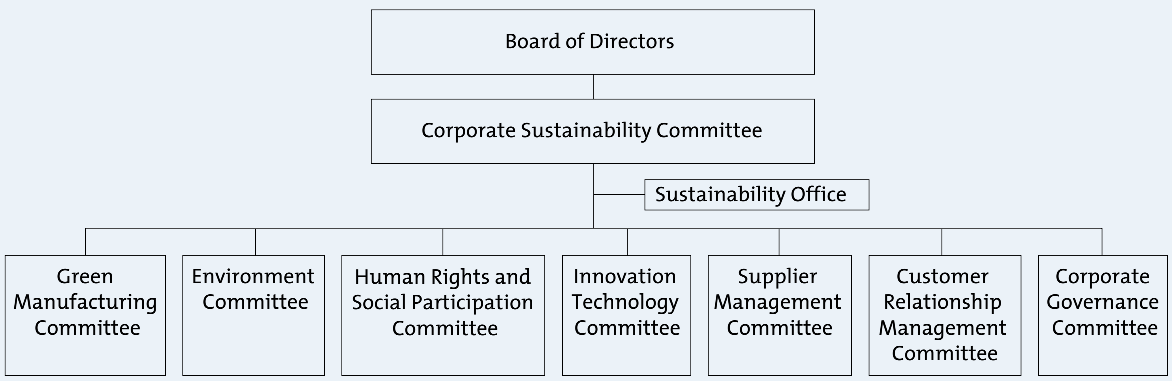
Environment Committee

Promote company-wide environmental, safety and health, energy, water and greenhouse gas emission management. Establish sustainable supply chains and long-term partnerships with suppliers to enhance sustainable competitiveness.

Green Manufacturing Committee

Promote 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:



To maintain and effectively implement UMC's corporate sustainability promises, UMC's corporate sustainability committee will adjust the organizational structure in accordance with actual operating results.

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 the Spreading the Seeds of Hope Project was launched in 2005 to help disadvantaged families through tutoring. Collaborating with agencies in Hsinchu and Tainan, the Foundation funds classrooms and the hourly wages of teacher trainees from universities to provide free tutoring to disadvantaged students needing academic assistance.

Summary of key implementations in 2018：

Key Items	Description	Outcome
Education for the Disadvantaged	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 in Hsinchu and Tainan.	In 2018, 120 children received a total of 750 hours of tutoring.
Life Education	Formed in 2009, the Love Storyteller Club has given drama performances in Pingtung, Hsinchu and Tainan.	Over the last 10 years, the Club has given 68 performances to a total audience of more than 20,000 people.
UMC Drum Club	Organized by the former Executive Director, the UMC Drum Club was launched in the Hsinchu and Tainan Science Park in July 2013. The group hopes to give back to society with "friendships through drums and inspiration through love. " Moreover, through executive participation, a culture of volunteering is promoted.	Over the last 6 years, the group has given 37 inspiring performances to a total audience of more than 25,000 people.
Parent Education	Exclusively sponsored the 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.	Continued to sponsor the program in 2018.
Story-telling Volunteers	Employees volunteering for story-telling led reading activities in Baoshi Elementary School in Hsinchu County to motivate children to read on their own.	In 2018, the volunteers provided 18 sessions of activities to a total of about 300 children.
Letter Writing Volunteers	Through letters, the volunteers reach out to their sponsored school children to encourage them, which is the simplest way of offering friendship, care and hope.	Sponsored a total of 110 children from the Fund for Children and Families.

- For more information on charity events, please refer to the UMC Science and Culture Foundation webpage at http://foundation.umc.com/

Donations for 2018 are as follow:

In NTD

	Social Participation	Amount
UMC Science and Culture Foundation	Spreading the Seeds of Hope Project Tutoring Program	3,977,177
	Sponsored 110 children from the Fund for Children and Families.	1,320,000
	Sponsored the Nantou Karate Association.	2,000,000
	Sponsored art and cultural events.	1,280,000
	Life education promotion and other sponsorships.	2,975,475
	Subtotal	11,552,652
UMC LOHAS Education Foundation	Sponsored the Hsinchu City Government's 2018 Special Learning Programs for Foreign Residence.	125,200
	Provided free admissions for charity/ visitations (a total of 700 students visited the UMC Recreation Center, and 300 free admissions to the recreational facilities were given to charity group.	100,000
	Sponsored events organized by the Hsinchu City Department of Education in 2018.	100,000
	Sponsored Science Park Cup sports competitions.	600,000
	Sponsored the sites for Taiwan Learning and Development Association and Taiwan Toy Library Association.	120,000
	Subtotal	1,045,200
	Total	12,597,852

Promoting UMC Volunteer Culture

Under the leadership of UMC Science and Culture Foundation, the volunteer culture at UMC has gradually expanded to include volunteers from throughout the Company. 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, and in 2018, 5 clubs participated in charity services.

About Social Charity (Continue)

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 2018:

Clubs	Services
Candlelight Club	Charity bazaars (Holiday Bazaar, Rebirth Bazaar and Concert, St. Joseph Social Welfare Foundation, Eden Social Welfare Foundation)
	Fundraisers (World Vision, St. Joseph Social Welfare Foundation, 823 Jianan Flood Fundraiser)
	Organization events (Miracle Home, Huashan Social Welfare Foundation Youth Dreamer Project)
Ukelele Club	Teaching (Nan-he Elementary School, Fu-sing Elementary School and Xin-xing Elementary School in Hsinchu County, Hsinchu County Association for the Visually Impaired)
	Free performances (Hsinchu Where! Youth Services Thanksgiving Dinner, Hsinchu Veteran Homes, Hsinchu Chien-Kung Community, Rebirth Concert at 16th Children's Park, Erlin Town and Villages Charity Market, Chang Thai Home for the Disabled in Xinhua, Taiwan)
UMC Drum Club	Charity performances (Catholic Social Service Center fair, UMC Family Day)
Taichi Club	Huakuang Social Welfare Foundation- Huaguang Outreach, UMC Charity fundraising event
Energy Conservation Service Team	Ai-Heng Training Center for Mental Retardation

UMC Social Charity Units

The UMC Science and Culture Foundation and the UMC LOHAS Education Foundation are two major UMC foundations. The series of social participation events by the Spreading the Seeds of Hope Project, which started out as education assistance for the disadvantaged, the UMC Love Storyteller Club for life education and the Voice of IC Teacher Hung Lan for parent education, consistently convey love and hope, bringing warmth to every needed corner. In addition to the two major foundations, UMC is the only electronics corporation in Taiwan to establish an independent fire brigade to assist with disaster relief in the Science Park and surrounding communities, and further fire prevention education by promoting fire safety in elementary schools.

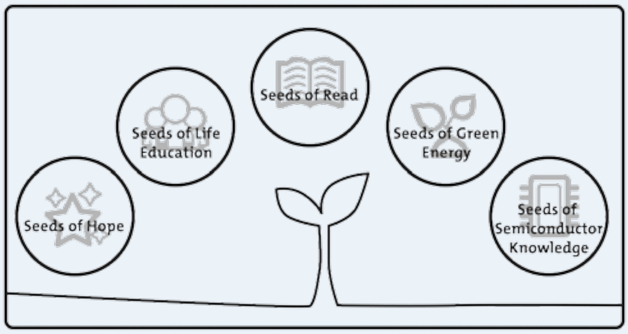
The various integral social participations are key forces in UMC social citizenship and outreach to the disadvantaged. The combination of UMC's internal resources allows UMC employees to contribute wholeheartedly to society and create a safer and warmer society through their caring conviction and social outreach.

2018 Outcome for Spreading the Seeds of Hope-Educational Assistance for Children from Disadvantaged Families Project

In view of the huge gap in Taiwan's educational resources, UMC began implementing the Spreading the Seeds of Hope - Educational Assistance for Children from Disadvantaged Families Project in 2005. Through corporate strength, UMC strives to improve education for children from disadvantaged families by providing them with afterschool tutoring, and fulfilling the "spreading hope" stage of the project.

In 2018, UMC continued to invest in the Seeds of Hope to help disadvantaged school children, and is committed to cultivating four key areas, namely life education, reading, environmental protection and green energy, and basic technology talents. Based on these spiritual, educational, environmental and basic technology dimensions, a new series of cultivation activities were implemented.

Strengthening educational foundation-- "Let Hope Sprout - Cultivate New Energy for the Future"



In 2010, UMC launched five key programs around the theme "Let Hope Sprout - Cultivate New Energy for the Future." The program is summarized below:

I. Spreading the Seeds of Hope—Educational Assistance for Children from Disadvantaged Families

The UMC Science and Culture Foundation continues to sponsor the tutoring costs for school children, and provides comprehensive education through reading and character education activities by volunteers. It is hoped that with the launch of the program, tutoring centers can be established in Hsinchu Science Park and Tainan Science Park to provide long-term educational assistance to children from disadvantaged families. In 2010, key tasks in Stage 1 of the Spreading the Seeds of Hope-Educational Assistance for Children from Disadvantaged Families Project were extended. In addition, long-term outreach such as reading and character education helped cultivate positive values and a learning attitude in children from disadvantaged families. To further incorporate the strength of UMC employees and their families into the program for helping children from disadvantaged families, the UMC volunteer tutoring team formed in 2005 was integrated with the UMC Science and Culture Foundation and the UMC Candlelight Club. In addition to collaborating on activities such as collecting gift donations for Christmas and other holidays, camps and visitations are also organized at various times each year where volunteer teams comprising UMC employees and their families interact with children from the Spreading the Seeds of Hope Tutoring Program. It is hoped that more passionate like-minded educators and companies can be recruited into the program. Moreover, the Company hopes that by giving long-term and sustained attention, it can inspire human care and love so that children with limited educational resources can also access educational resources through professional tutoring, learn and grow confidently and happily like other children. Furthermore, it is hoped that the program can sprout, grow and thrive in even more places.

The outcome of UMC's Seeds of Hope long-term projects are as follow:

1. Through close collaboration between academic counseling and families/schools, children from disadvantaged families regained confidence and growth in their learning.
2. Volunteer outreach helped prevent deviant behaviors in children by allowing them to feel understood and cared for, and helped them begin to break out of poverty through the power of education.
3. In 2018, 120 children received a total of 750 hours of tutoring.
4. Through sponsoring the Nantou Karate Association, disadvantaged students gained confidence and discovered their strength through karate training.

II. Promoting National Reading Culture Through Me 2 We Reading Club

To promote the National Reading Culture, UMC employees formed the Me 2 We Reading Club to not only share the joy of reading within the Company, but also to train UMC employees for volunteer storytelling. The storytelling skills not only allow employees to experience the pleasure of storytelling, but also enhance the quality of their reading time with their children.

In addition to sharing reading with their colleagues and children, UMC employees went beyond their personal scope and participated in the Spreading the Seeds of Hope Tutoring Program to promote reading in remote rural elementary schools.

III. Promoting Life Education Through Life Education Volunteer Club

The Life Education Volunteer Club recruits members from UMC's employees and their families to help disadvantaged youths avoid delinquency and discover their personal strengths. After receiving former training and certification, the volunteers visit indigenous students and marginal youths in Hsinchu and Nantou to help them understand the true meaning of living and personal growth.

In addition, the UMC Love Storyteller Club was formed, where volunteers worked in teams to choreograph, rehearse, construct props and costumes and perform. In addition to public performances in the 88 Flood disaster areas, the club was also invited by the Ministry of Justice to perform in Cheng Jheng High School so that given limited educational resources, those in remote rural areas and those on probation can still enjoy a rich spiritual feast. Through these experiences, UMC volunteers were also inspired to reflect on their own lives and cherish their blessings.

Summary of achievements in 2018:

Key Items	Outcome
Sponsored the Whatever Makes Sense for Voice of IC Teacher Hung Lan program	A total of 52 episodes were broadcasted in 2018.
Candlelight Club-Community outreach and fundraising bazaar	A total of 19 bazaars, totaling 6,370 participants. 319 volunteers participated, totaling 1,787 hours.
Ukelele Club-Volunteer performance and teaching	A total of 11 sessions, totaling 2,807 participants. 93 volunteers participated, totaling 473.5 hours.

IV. Eco Green Energy Programs for Promoting Environmental Education and Green Energy Technology Talent Cultivation

In view of the growing problem of global warming, environmental issues have become a responsibility for everyone. In addition to its commitment to establishing a low-carbon supply chain and green energy industry, UMC is passionate about supporting environmental events and promoting environmental education. Through various environmental programs, eco concepts are further promoted to students, friends and families so that environmental protection becomes a responsibility and life standard for everyone.

V. Semiconductor Programs for Cultivating Taiwan's High-Tech Talents

With the mission of cultivating Taiwan's high-tech talents, UMC not only invests in developing and improving the company's talents, but also in cultivating seed talent for Taiwan's semiconductor technology through early contact. The semiconductor process practicum courses in National

About Social Charity (Continue)

Cheng Kung University, 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 into their career, thereby achieving talent cultivation for Taiwan's semiconductor technology.

In addition, through the National Science Council, UMC collaborates with National Taiwan University, National Tsing Hua University, National Chiao Tung University, National Cheng Kung University and National Chung Cheng University on advanced technology R&D and projects to achieve the most effective industry-university cooperation for integrating theory and practice.

Representative Outcome of Semiconductor Programs:

1. Collaborated with National Cheng Kung University, National Central University and Chung Yuan Christian University to offer special industry-university courses on semiconductors.
2. Collaborated with National Cheng Kung University, National Tsing Hua University, National Chung Cheng University and National Chiao Tung University on innovations and R&D projects. The research scope includes advanced integrated circuit materials, micro-sensors and actuators, core embedded sensing processing components, and continuing patents.

Summary of key implementation outcomes in 2018:

	Key Items	Outcome
Industry-University	National Central University, Chung Yuan Christian University	Offered semiconductor processing practicum courses in 2018. About 178 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 2018. About 230 students enrolled.
Campus Cultivation	Domestic and Overseas Summer Internship	Provide a specific number of internship opportunities each summer vacation. In 2018, a total of 21 interns were recruited.
Campus Cultivation	Equipment Intern	Collaborated with National Taiwan University of Science and Technology, National Taipei University of Technology, Chung Hua University, Southern Taiwan University of Science and Technology, National Chin-Yi University of Technology, National United University, Da-Yeh University, National Kaohsiung University of Science and Technology and National Formosa University to provide student internship opportunities at UMC. In 2018, a total of 44 interns were accepted.
	Enterprise Visitations	Provide enterprise visitation opportunity for schools. In 2018, the Company received a total of 1,347 visitors from National Cheng Kung University, National Kaohsiung University of Science and Technology, National Central University, Chung Yuan Christian University, National Tsing Hua University, National Chiao Tung University and National Taiwan Normal University.
	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 106 students with physical disabilities were provided with work study opportunities, and in 2018, 19 students were still employed.

About Social Charity (Continue)

	Key Items	Outcome
	Campus relationship development	Helped arranged a series of brand image cultivation activities, including book discussion, career sharing, internship cooperation, and exhibits for semiconductor display. In 2018, 30 sessions of book discussion were held, with a total of more than 3,500 participants.
	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 7 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.
	PTP Prospective Talent Program	The early contact and agreement with prospective talents on campus enhances connection and interaction with targeted talents. The broadening UMC PTP also expands the image and influence of UMC. Since UMC began recruiting outstanding talent in 2013, 4,140 students have been recruited and 1,934 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 1,149 students have attended the campus briefings

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, and educational and academic units. Recipients include groups such as UMC Science and Culture Foundation, UMC Operation Management Thesis Award, National Cheng Kung University academic funding for Nano-IC Engineering, temporary transfer of feedback fund for management talent, Taiwan Semiconductor Industry Association Environmental Protection Fund, Global Views Educational Foundation Green Award prizes, VLSI Design/CAD Symposium and Taiwan Semiconductor Industry Association, as well as charity events.

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

Summary of donations in 2018:

In NTD

	Social Participation	Amount
UMC	Donated to UMC Science and Culture Foundation	10,000,000
	Donated to the 8th UMC Operation Management Thesis Award	2,916,614
	Donated to the National Cheng Kung University academic funding for Nano-IC Engineering	3,000,000
	Donated to feedback fund for temporary transfer of management talent	621,729
	Donated to Taiwan Semiconductor Industry Association Environmental Protection Fund	531,335
	Donated to the Global Views Educational Foundation Green Award prizes	650,000
	Donated to VLSI Design/CAD Symposium	100,000
	Donated to the Taiwan Semiconductor Industry Association	50,000
	Total	17,869,678

About Social Charity (Continue)

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 incident to become an enterprise of sustainable development; in addition to being in compliance with and better than 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 ISO 14001 and OHSAS 18001 standards. It is intended to integrate daily management with total qualify 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 companyperformance of environmental protection and safety and health management.

Achievement status of UMC's Important ESH Objectives/Targets in 2018:

Objective	Target	Achievement Status
Eliminating major accidents and continuously promoting self-management of safety and care and individual occupational safety	1. Zero Major / Serious occupational safety incident	One occupational safety incident throughout the year
	2. Fewer than 13 minor (or above) accidents	A total of 10 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) Note: the base year is 2015	The milestone of 2018 was achieved

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 2010 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 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 the emission of greenhouse gas 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.

In addition, UMC has conducted the processing of greenhouse gas information with public disclosure by adhering to the principles of initiative, openness, transparency, and quality adherence. The results of greenhouse gas emission inventories of the company in Taiwan from 2000 to 2017 have all passed ISO 14064-1 third party verification. From now on, the annual inventory and verification of emission and reduction will be conducted regularly to be fully aware of the current status of the use of greenhouse gas and to verify the effectiveness of reduction. The emission and reduction information from 2018 is planned for disclosure after completion of third party verification in June 2019. In the annual ranking announced by the International CDP organization in 2018, UMC got a score of Leadership A-, indicating that UMC has been positively recognized by international investment organizations in terms of information disclosure related to climate change and sustainability.

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 fab are superior to the standard set by Science Park Bureau. The water saving measures for general water consumption include the adoption of water-efficient tap, rainwater interception for landscape watering, and saving of water consumption by air conditioner and kitchen.

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

Environmental Protection, Safety and Health Management Instructions (Continue)

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 the increasingly serious environmental problem. 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 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-control and constantly introducing 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.

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 spontaenous 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 it began the promotion of the green supply chain management system and became a member of SONY Green Partner in the same year. To date, the company has continuously passed re-verification, indicating 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 of IC wafer, 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 2010, 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 of sustainable environment, UMC has provided the 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, cultivate work attitude and habit of "Put safety and health first", 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.

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 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 though 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 machine equipment appliance safety standard, 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 organization. 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 strict ESH review mechanism for fab entry of chemicals. According to the Chemical Substance Management Procedure of the company, chemical substances with high risks must be in compliance with the regulation, and the relevant protection must be confirmed before they can be used.
As for the chemicals in use, 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 of 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 leak with timely warning and automatic broadcast 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 audit 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 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

Environmental Protection, Safety and Health Management Instructions (Continue)

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 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**

By nature, UMC's ESH educational trainings can be divided into three categories:

-Company-wide safety and health educational training

-Fab-wide safety and health educational training arranged by each fab.

-ESH trainings formulated by each department according to the nature of each department

The continuous educational training and advocacy can develop employees' emergency response capability and safety concept, strengthen employees' perception, and reduce the occurrence of accidents caused by unsafe conduct. UMC has included the emergency response, licenses required by laws and regulations, maintenance of the safety and health management system, safety protection of special operation, and construction supervision personnel in the annual training plan. In addition to the training courses in the plan, educational trainings should be arranged from time to time with respect to specific incident or major deficiency if necessary. In 2018 there was a new course of "Safety mindset 4.0" of company's BBS (Behavior - Based Safety) culture. A total of 2,063 courses were arranged in the entire year to train a total of 101,739 people. It contained e-learning courses and physical courses so that employees could learn about safety and health knowledge without being limited by time and venue.

- **Management of Personal Protective Equipment**

UMC provides complete personal protective equipment according to different natures of operations, which should be regularly inspected and replaced by employees using such equipment. This item should be the key point during onsite walkthrough by supervisors and occupational safety personnel in order to remind employees to pay attention to the correct use of protective equipment and to wear them all the time.

- **Health Examination, Health Management, and Health Promotion Matters**

UMC believes that employees are 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 Division of Risk Management and Safety and Health, 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 our 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 distinguishers, 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

Environmental Protection, Safety and Health Management Instructions (Continue)

place, in addition to regular summary and report, 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 the accident reduction and safety enhancement.

- **Safety and Health Management Record, Performance Review, and Rewards**

For facilitating the management, in addition to the written records, UMC has established multiple computer systems as the aid for safety and health management, such as automatic inspection system, ISO 14001 & OHSAS 18001 management system, 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 2018 are as shown below:

- "The Best Participation of Green Procurement for Enterprises" by the Environmental Protection Administration of Executive Yuan, R.O.C.
- "Enterprise Environmental Protection Award" by the Environmental Protection Administration of Executive Yuan, R.O.C. (Fab 8E)
- "Outstanding Energy Saving Performance Award" by the Bureau of Energy, Ministry of Economic Affairs, R.O.C. (Fab 8E)
- "Watermark Award" by the Singapore's National Water Agency (Fab 12i)
- "Award of Enterprise with Outstanding Waste Reduction and Resources Circulation" by the Hsinchu Science Park Bureau, Ministry of Science and Technology, R.O.C. (Fab 8D)
- "Business with Outstanding Environmental Protection Performance" by the Tainan Science Park Bureau, Ministry of Science and Technology, R.O.C. (Fab 12A),(Fab 12A II)
- "Outstanding Occupational Safety and Health Unit" by the Hsinchu Science Park Bureau, Ministry of Science and Technology, R.O.C. (Fab 8A)

Special Disclosures

Summary of Affiliated Enterprises

Affliated Organization Chart

United Microelectronics Corp.

↓

UMC Group (USA)	100.00%								
United Microelectronics (Europe) B.V.	100.00%								
UMC Capital Corp.	100.00%	→ UMC Capital (USA)	100.00%						
TLC Capital Co., Ltd.	100.00%	→ Soaring Capital Corp.	100.00%	→ Unitruth Advisor (Shanghai) Co., Ltd.	100.00%				
Fortune Venture Capital Corp.	100.00%	→ Tera Energy Development Co., Ltd.	100.00%	→ Everrich Energy Investment (HK) Limited	100.00%	→ Everrich (Shandong) Energy Co., Ltd.	100.00%		
UMC Group Japan	100.00%								
UMC Korea Co., Ltd.	100.00%								
Green Earth Limited	100.00%	→ United Microchip Corporation	100.00%	→ United Semiconductor (Xiamen) Co., Ltd.	50.73%				
UMC Investment (Samoa) Limited	100.00%								
Nexpower Technology Corp.	93.36%	→ SocialNex Italia 1 S.R.L.	100.00%						
Wavetek Microelectronics Corporation	78.47%	→ Wavetek Microelectronics Investment (Samoa) Limited	100.00%	→ Wavetek Microelectronics Corporation (USA)	100.00%				
Best Elite International Limited	100%	→ Infoshine Technology Limited	100.00%	→ Oakwood Associates Limited	100.00%	→ Hejian Technology (Suzhou) Co., Ltd.	98.14%	→ UnitedDS Semiconductor (Shandong) Co., Ltd.	100.00%
								United Semiconductor (Xiamen) Co., Ltd.	14.49%
Omni Global Limited	100.00%	→ United Microtechnology Corporation (New York)	100.00%						
		United Microtechnology Corporation (California)	100.00%						
		ECP Vita Pte. Ltd.	100.00%						
		UMC Technology Japan Co., Ltd.	100.00%						
Sino Paragon Limited	100.00%								

Note 1: UMC holds 47.75% of Nexpower Technology Corp.(Nexpower); Fortune Venture Capital Corp. holds 33.47% of Nexpower, and TLC Capital Co., Ltd. holds 12.14% of Nexpower, and the comprehensive shareholding ratio is 93.36%.

Note 2: UMC holds 77.74% of Wavetek Microelectronics Corporation (Wavetek); Fortune Venture Capital Corp. holds 0.73% of Wavetek, and the comprehensive shareholding ratio is 78.47%.

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	495,705,688	IC Sales
United Microelectronics (Europe) B.V.	1989.05.23	De Entree77, 1101BH, Amsterdam Zuidoost, The Netherlands	116,867,702	Marketing support activities
UMC Capital Corp.	2001.01.16	190 Elgin Avenue, George Town, Grand Cayman, Cayman Islands	2,161,140,397	Investment holding
UMC Group Japan	2013.02.08	15F Akihabara Centerplace Bldg., 1 Kanda Aioi-cho, Chiyoda-ku, Tokyo 101-0029, Japan	8,187,000	IC Sales
UMC Korea Co., Ltd.	2013.04.12	1117, Hanshin Intervally 24, 322, Teheran-ro, Gangnam-gu, Seoul, Korea	15,070,000	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.	3,876,000,000	Venture capital
Fortune Venture Capital Corp.	1993.09.21	5F, No.17, Lane 120, Neihu Road Section 1, Taipei, Taiwan 114, R.O.C.	4,620,000,000	Consulting and planning for venture capital
Green Earth Limited	2009.09.09	Vistra Corporate Services Centre, Ground Floor NPF Building, Beach Road, Apia Samoa	29,988,444,000	Investment holding
UMC Investment (Samoa) Limited	2011.03.30	Vistra Corporate Services Centre, Ground Floor NPF Building, Beach Road, Apia Samoa	43,519,120	Investment holding
Nexpower Technology Corp.	2005.11.25	2, Houke S. Rd., Houli District, Taichung, Taiwan 42152, R.O.C	711,986,480	Sales and manufacturing of solar power batteries
UMC Capital (USA)	2001.02.13	488 De Guigne Drive, Sunnyvale, CA 94085, USA	6,031,400	Investment holding
ECP Vita Pte. Ltd.	2012.05.10	8 Marina View#09-05 Asia Square Tower 1 Singapore (018960)	271,413,000	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	24,125,600	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	22,617,750	Solar engineering integrated design services

Summary of Affiliated Enterprises (Continue)

In NTD

Name of Corporation	Date of Establishmen	Address	Capital	Major Business / Production Items
Wavetek Microelectronics Corporation	2010.10.18	10, Chuangxin 1st Rd., Baoshan Township, Hsinchu, Taiwan 30076, R.O.C.	1,623,771,110	Sales and manufacturing of integrated circuits
Wavetek Microelectronics Investment (Samoa) Limited	2013.08.28	Le Sanalele Complex, Ground Floor, Vaea Street, Saleufi, Apia, Samoa	46,275,000	Investment holding
Wavetek Microelectronics Corporation (USA)	2013.09.26	488 De Guigne Drive, Sunnyvale, CA 94085, USA	1,809,420	Sales and marketing service
SocialNex Italia 1 S.R.L.	2011.11.11	Corso Venezia, 36-20121, Milano, Italy	356,030	Photovoltaic power plant
Best Elite International Limited	2001.07.12	Vistra Corporate Services Centre, Wickhams Cay II, Road Town, Tortola, VG1110, B.V.I.	7,206,788,677	Investment holding
Infoshine Technology Limited	2002.02.12	Vistra Corporate Services Centre, Wickhams Cay II, Road Town, Tortola, VG1110, B.V.I.	10,675,578,000	Investment holding
Oakwood Associates Limited	2002.02.12	Vistra Corporate Services Centre, Wickhams Cay II, Road Town, Tortola, VG1110, B.V.I.	10,675,578,000	Investment holding
HeJian Technology (Suzhou) Co., Ltd.	2001.11.23	333, Xinghua St., Suzhou Industrial Park, Suzhou, Jiangsu Province 215025, PRC	14,613,260,591	Sales and manufacturing of integrated circuits
UnitedDS Semiconductor (Shandong) Co., Ltd	2014.03.25	17th Floor, Building3, Aosheng Plaza,1166 Xinluo Ave., Jinan High-Tech Development Zone	136,785,000	Design support of integrated circuits
Omni Global Limited	2013.07.02	Vistra Corporate Services Centre, Ground Floor NPF Building, Beach Road, Apia Samoa	130,160,000	Investment holding
United Microtechnology Corporation (New York)	2013.07.08	420 Sand Creek Rd., Apt. 113 Albany, NY 12205, USA	28,649,150	Research & development
United Microtechnology Corporation (California)	2014.12.10	488 Deguigne Drive, Sunnyvale, CA 94085, USA	30,157,000	Research & development
United Semiconductor (Xiamen) Co., Ltd	2014.10.01	899 Wan Jia Chun Road, Xiang'an District, Xiamen, PRC	57,895,591,743	Sales and manufacturing of integrated circuits
United Microchip Corporation	2015.02.04	P.O. Box 31119 Grand Pavilion, Hibiscus Way, 802 West Bay Road, Grand Cayman, KY1-1205 Cayman Islands	29,874,878,250	Investment holding
UMC Technology Japan Co., Ltd.	2016.04.01	15F Akihabara Centerplace Bldg., 1 Kanda Aioi-cho, Chiyoda-ku, Tokyo 101-0029, Japan	4,775,750	Semiconductor manufacturing technology development and consulting services
Sino Paragon Limited	2016.06.06	Vistra Corporate Services Centre, Ground Floor NPF Building, Beach Road, Apia Samoa	83,204,400	Investment holding

Note: The data is dated December 31, 2018.

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 Group Japan	Director	J J Chang	—	—
	Director	C C Tien	—	—
	Director	Yen Huang	—	—
	Supervisor	Angel Sun	—	—
UMC Korea Co., Ltd.	Director	Carissa Tseng	—	—
TLC Capital Co., Ltd.	Chairman	United Microelectronics Corporation	387,600,000	100.00
		Representative:Stan Hung	—	—
	Director	United Microelectronics Corporation	387,600,000	100.00
		Representative: SC Chien	—	—
	Director	United Microelectronics Corporation	387,600,000	100.00
		Representative: Jason Wang	—	—
	Director	United Microelectronics Corporation	387,600,000	100.00
		Representative: Chitung Liu	—	—
	Director	United Microelectronics Corporation	387,600,000	100.00
		Representative: Chih Chiang Peng	—	—
	Supervisor	United Microelectronics Corporation	387,600,000	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	462,000,000	100.00
		Representative: Stan Hung	—	—
	Director	United Microelectronics Corporation	462,000,000	100.00
		Representative: SC Chien	—	—
	Director	United Microelectronics Corporation	462,000,000	100.00
		Representative: Jason Wang	—	—
	Director	United Microelectronics Corporation	462,000,000	100.00
		Representative: Chitung Liu	—	—
	Director and President	United Microelectronics Corporation	462,000,000	100.00
		Representative: Chih Chiang Peng	—	—
	Supervisor	United Microelectronics Corporation	462,000,000	100.00
		Representative: Bellona Chen	—	—
Green Earth Limited	Director	Chitung Liu	—	—
UMC Investment (Samoa) Limited	Director	United Microelectronics Corporation	1,520,000	100.00
Nexpower Technology Corp.	Chairman	United Microelectronics Corporation	33,998,269	47.75
		Representative: Steven Sheng	—	—
	Director	Unimicron Technology Corp.	400,326	0.56
		Representative: Kevin Liu	—	—
	Director	United Microelectronics Corporation	33,998,269	47.75
		Representative: C P Yen	—	—
	Director	United Microelectronics Corporation	33,998,269	47.75
		Representative: Jinhong Lin	—	—
	Director	United Microelectronics Corporation	33,998,269	47.75
		Representative: Eric Zhou	—	—
	Supervisor	Fortune Venture Capital Corp.	23,826,545	33.46
		Representative: Tachih Lung	—	—

Summary of Affiliated Enterprises (Continue)

Name of Corporation	Title	Name or Representative	Shareholding	
			Shares	%
UMC Capital（USA）	Director and President	Jason Wang	—	—
	Director	Stan Hung	—	—
ECP Vita Pte. Ltd.	Director	Chitung Liu	—	—
	Director	Bellona Chen	—	—
	Director	Vic Yen	—	—
	Director	Sofia Wang	—	—
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: Steven Sheng	—	—
	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	—	—
	Supervisor	Fortune Venture Capital Corp.	18,655,091	100.00
		Representative: Tachih Lung	—	—
Everrich Energy Investment (HK) Limited	Director	Tera Energy Development Co., Ltd.	750,000	100.00
	Director	Jinhong Lin	—	—
Everrich (Shandong) Energy Co., Ltd.	Executive Director	Steven Sheng	—	—
	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	126,230,387	77.74
		Representative: Wen-Yang Chen	—	—
	Director	United Microelectronics Corporation	126,230,387	77.74
		Representative:SC Chien	—	—
	Director	United Microelectronics Corporation	126,230,387	77.74
		Representative:Jason Wang	—	—
	Supervisor	Chih Chiang Peng	15,001	0.00
Wavetek Microelectronics Investment (Samoa) Limited	Director	Wen-Yang Chen	—	—
Wavetek Microelectronics Corporation （USA）	Director	Chian Gauh Shih	—	—
SocialNex Italia 1 S.R.L.	Director	Sherry Chang	—	—
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	Stan Hung	—	—
	Vice Chairman	Chau-Shen Yu	—	—
	Director and President	Ming-Cheng Kao	—	—
	Director	Chitung Liu	—	—
	Director	Wan Ling Cheng	—	—
	Director	Jinhong Lin	—	—
	Independent Director	Qingheng An	—	—
	Independent Director	Feng-I Lin	—	—
	Independent Director	Wenli Zhang	—	—
	Supervisor	Jeremy Wang	—	—
	Supervisor	Ming-Chun Chu	—	—
	Supervisor	I-Cheng Lu	—	—
UnitedDS Semiconductor(Shandong) Co., Ltd.	Executive Director	Steven Sheng	—	—
	Supervisor	Archi Chen	—	—
Omni Global Limited	Director	Chitung Liu	—	—

Summary of Affiliated Enterprises (Continue)

Name of Corporation	Title	Name or Representative	Shareholding	
			Shares	%
United Microtechnology Corporation（New York）	Director	Jason Wang	—	—
	Director	Chitung Liu	—	—
United Microtechnology Corporation（California）	Director	Jason Wang	—	—
	Director	Chitung Liu	—	—
United Semiconductor (Xiamen) Co., Ltd.	Chairman	Chau-Shen Yu	—	—
	Vice Chairman	Chih-Ching Hsu	—	—
	Director	Gang Wu	—	—
	Director	Tao Yang	—	—
	Director	Guo-Yu Sui	—	—
	Director	SC Chien	—	—
	Director	Eric Chen	—	—
	Director	Jinhong Lin	—	—
	Director	Jeremy Wang	—	—
	Supervisor	Wei-Piao Huang	—	—
	Supervisor	Angel Sun	—	—
United Microchip Corporation	Director	Chitung Liu	—	—
UMC Technology Japan Co., Ltd.	Director	Chitung Liu	—	—
	Director	Jinhong Lin	—	—
Sino Paragon Limited	Director	Jason Wang	—	—
	Director	Chitung Liu	—	—

Note: The data is dated December 31, 2018.

Summary of Affiliated Enterprises (Continue)

Summarized Operating Results of UMC Subsidiaries

In Thousand NTD

Company	Capital	Assets	Liabilities	Net Worth	Net Operating Revenues	Operating Income (Loss)	Net Income (Loss)	Earnings (Loss) Per Share (NTD)
UMC Group（USA）	495,706	9,583,342	7,873,923	1,709,419	58,692,137	43,378	51,023	3.10
United Microelectronics（Europe） B.V.	116,868	141,355	8,666	132,689	47,230	3,543	2,749	305.38
UMC Capital Corp.	2,161,140	3,451,556	382	3,451,174	402,972	(114,609)	(114,609)	(1.60)
UMC Group Japan	8,187	1,081,515	1,021,744	59,771	4,574,282	75,605	43,056	43,056.27
UMC Korea Co., Ltd.	15,070	21,066	378	20,688	14,230	1,156	1,148	10.44
TLC Capital Co., Ltd.	3,876,000	4,270,623	23,948	4,246,675	356,574	18,548	(28,853)	(0.07)
Fortune Venture Capital Corp.	4,620,000	5,616,952	24,479	5,592,473	948,850	(194,835)	(196,483)	(0.47)
Green Earth Limited	29,988,444	17,150,726	-	17,150,726	-	-	(5,570,897)	(6.69)
UMC Investment（Samoa） Limited	43,519	42,908	-	42,908	-	-	532	0.35
Nexpower Technology Corp.	711,986	1,158,522	1,045,524	112,998	86,152	(320,750)	(351,503)	(7.43)
UMC Capital（USA）	6,031	16,642	178	16,464	7,728	368	330	1.65
ECP Vita Pte. Ltd.	271,413	539,199	29,034	510,165	45,150	41,687	41,130	4.57
Soaring Capital Corp.	27,351	14,199	-	14,199	1	(1,912)	(1,904)	(2.12)
Unitruth Advisor (Shanghai) Co., Ltd.	24,126	14,319	4	14,315	8,725	(2,041)	(1,812)	NA
Tera Energy Development Co., Ltd.	186,551	86,672	5,024	81,648	6,507	(11,973)	1,786	0.07
Everrich Energy Investment (HK) Limited	25,988	32,388	30	32,358	-	(130)	2,987	2.97
Everrich (Shandong) Energy Co., Ltd.	22,618	48,958	16,166	32,792	52,487	4,886	3,108	NA

Summary of Affiliated Enterprises (Continue)

In Thousand NTD

Company	Capital	Assets	Liabilities	Net Worth	Net Operating Revenues	Operating Income (Loss)	Net Income (Loss)	Earnings (Loss) Per Share (NTD)
Wavetek Microelectronics Corporation	1,623,771	1,404,140	662,000	742,140	1,884,722	(295,728)	(308,322)	(1.90)
Wavetek Microelectronics Investment (Samoa) Limited	46,275	11,045	1,939	9,106	-	(7,421)	(7,277)	(5.82)
Wavetek Microelectronics Corporation (USA)	1,809	2,875	316	2,559	7,385	355	194	3.24
SocialNex Italia 1 S.R.L.	356	161,890	34,022	127,868	13,582	1,355	1,342	NA
Best Elite International Limited	7,206,789	23,093,501	3,138	23,090,363	-	(5,526)	376,114	0.57
Infoshine Technology Limited	10,675,578	23,013,970	-	23,013,970	-	-	381,162	NA
Oakwood Associates Limited	10,675,578	23,013,970	-	23,013,970	-	(1,024)	381,162	NA
Hejian Technology (Suzhou) Co., Ltd.	14,613,261	27,329,062	4,084,367	23,244,695	10,306,348	2,215,793	363,030	0.11
UnitedDS Semiconductor (Shandong) Co., Ltd.	136,785	238,665	39,250	199,415	159,499	16,802	15,057	NA
Omni Global Limited	130,160	594,085	21,573	572,512	-	(69)	42,683	9.93
United Microtechnology Corporation (New York)	28,649	30,425	60	30,365	67	4	(29)	(766.20)
United Microtechnology Corporation (California)	30,157	34,936	1,164	33,772	25,143	1,423	2,328	58,220.76
United Semiconductor (Xiamen) Co., Ltd.	57,895,592	94,377,826	59,661,654	34,716,172	6,555,680	(8,631,490)	(11,724,602)	NA
United Microchip Corporation	29,874,878	17,123,928	-	17,123,928	-	-	(5,570,480)	(6.72)
UMC Technology Japan Co., Ltd.	4,776	9,295	295	9,000	1,294	76	(246)	(70.35)
Sino Paragon Limited	83,204	120,901	-	120,901	-	-	14,442	5.55

Note:USD:NTD=1:30.157, JPY:NTD=1:0.2729, EUR:NTD=1:35.603, RMB:NTD=1:4.5595, KRW:NTD=1:0.0274.

Issuance of Private Placement Securities

The Company's 2018 Annual General Meeting (AGM) has authorized the Board to engage with strategic investors through private placement and raise capital from specific parties, through issuing either single or combo instruments such as common shares, DRs (including but not limited to ADS), or Euro/Domestic convertible bonds (including secured or unsecured corporate bonds), based on market conditions and the Company's needs. The amount of shares issued or convertible is proposed to be no more than 10% of total shares issued (i.e., no more than 1,262,431,871 shares). Considering market conditions, the Board of Directors resolved on March 6, 2019, to terminate the private placement offering.

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.	4,620,000	New shares for cash	100.00	2019	None	None	None	16,078,737	105,114
				2018	None	None	None	16,078,737	105,114

Note: (1) The data is dated March 6, 2019.
(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 2018 and as of the Annual Report Printing Date

None.

Financial Review

Condensed Balance Sheets

Condensed Balance Sheets-Consolidated

In Thousand NTD

Item		2018	2017	2016	2015	2014
Current assets		141,193,432	139,160,486	110,469,594	94,816,521	96,863,149
Property, plant and equipment		172,846,595	205,741,681	224,983,404	186,433,395	166,690,243
Intangible assets		2,991,804	3,787,509	4,088,303	4,504,088	4,532,938
Other assets		47,573,075	45,409,486	47,113,881	51,612,806	45,159,318
Total assets		364,604,906	394,099,162	386,655,182	337,366,810	313,245,648
Current liabilities	Before distribution	49,899,337	88,061,070	71,978,462	48,245,518	48,106,076
	After distribution	*	96,618,093	78,090,621	55,152,491	55,045,398
Non-current liabilities		108,169,078	92,000,508	95,935,096	60,303,889	40,130,721
Total liabilities	Before distribution	158,068,415	180,061,578	167,913,558	108,549,407	88,236,797
	After distribution	*	188,618,601	174,025,717	115,456,380	95,176,119
Equity attributable to the parent company		206,069,723	213,080,776	216,579,895	226,790,338	221,159,053
Capital		124,243,187	126,243,187	126,243,187	127,581,329	127,303,048
Additional paid-in capital		40,399,363	40,858,350	40,997,092	41,651,569	39,447,879
Retained earnings	Before distribution	61,588,543	48,065,899	47,655,176	50,707,642	44,339,023
	After distribution	*	39,508,876	41,543,017	43,800,669	37,399,701
Other components of equity		(14,513,940)	2,632,377	6,403,477	10,675,404	12,372,712
Treasury stock		(5,647,430)	(4,719,037)	(4,719,037)	(3,825,606)	(2,303,609)
Non-controlling interests		466,768	956,808	2,161,729	2,027,065	3,849,798
Total equity	Before distribution	206,536,491	214,037,584	218,741,624	228,817,403	225,008,851
	After distribution	*	205,480,561	212,629,465	221,910,430	218,069,529

Note 1 : * Subject to change based on resolutions of the 2019 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		2018	2017	2016	2015	2014
Current assets		101,335,770	106,676,034	82,558,263	72,211,211	68,881,364
Property, plant and equipment		101,115,727	127,101,974	157,573,131	169,031,687	155,458,694
Intangible assets		2,886,159	3,459,829	4,015,370	4,399,963	4,433,528
Other assets		93,849,564	84,756,630	82,908,196	80,159,888	69,080,163
Total assets		299,187,220	321,994,467	327,054,960	325,802,749	297,853,749
Current liabilities	Before distribution	26,797,263	58,655,702	47,397,892	41,441,501	38,405,248
	After distribution	*	67,212,725	53,510,051	48,348,474	45,344,570
Non-current liabilities		66,320,234	50,257,989	63,077,173	57,570,910	38,289,448
Total liabilities	Before distribution	93,117,497	108,913,691	110,475,065	99,012,411	76,694,696
	After distribution	*	117,470,714	116,587,224	105,919,384	83,634,018
Equity		206,069,723	213,080,776	216,579,895	226,790,338	221,159,053
Capital		124,243,187	126,243,187	126,243,187	127,581,329	127,303,048
Additional paid-in capital		40,399,363	40,858,350	40,997,092	41,651,569	39,447,879
Retained earnings	Before distribution	61,588,543	48,065,899	47,655,176	50,707,642	44,339,023
	After distribution	*	39,508,876	41,543,017	43,800,669	37,399,701
Other components of equity		(14,513,940)	2,632,377	6,403,477	10,675,404	12,372,712
Treasury stock		(5,647,430)	(4,719,037)	(4,719,037)	(3,825,606)	(2,303,609)
Total equity	Before distribution	206,069,723	213,080,776	216,579,895	226,790,338	221,159,053
	After distribution	*	204,523,753	210,467,736	219,883,365	214,219,731

Note 1 : * Subject to change based on resolutions of the 2019 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	2018	2017	2016	2015	2014
Operating revenues	151,252,571	149,284,706	147,870,124	144,830,421	140,012,076
Gross profit	22,840,027	27,057,758	30,379,430	31,768,527	31,852,678
Operating income	5,797,232	6,568,321	6,193,576	10,835,657	10,076,332
Non-operating income and expenses	(3,612,833)	1,230,101	(1,346,938)	2,876,488	3,436,964
Income from continuing operations before income tax	2,184,399	7,798,422	4,846,638	13,712,145	13,513,296
Net income	2,643,052	6,631,265	3,863,075	12,835,651	11,479,589
Other comprehensive income (loss), net of tax	949,944	(4,034,355)	(4,364,780)	(1,794,644)	6,738,120
Total comprehensive income (loss)	3,592,996	2,596,910	(501,705)	11,041,007	18,217,709
Net income attributable to stockholders of the parent	7,072,990	9,628,734	8,315,660	13,448,624	12,141,341
Net income attributable to non-controlling interests	(4,429,938)	(2,997,469)	(4,452,585)	(612,973)	(661,752)
Comprehensive income attributable to stockholders of the parent	8,126,828	5,705,980	3,983,198	11,716,094	18,736,470
Comprehensive income attributable to non-controlling interests	(4,533,832)	(3,109,070)	(4,484,903)	(675,087)	(518,761)
Earnings per share (NTD)	0.58	0.79	0.68	1.08	0.97

Note 1 : EPS was calculated based on weighted average 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	2018	2017	2016	2015	2014
Operating revenues	132,834,602	132,179,198	135,592,136	130,685,516	120,615,391
Gross profit	30,548,191	29,718,771	28,358,887	28,686,022	29,590,980
Operating income	12,790,237	11,538,896	9,605,769	10,913,811	11,130,389
Non-operating income and expenses	(6,581,581)	(1,114,125)	(594,179)	3,032,406	2,707,901
Income from continuing operations before income tax	6,208,656	10,424,771	9,011,590	13,946,217	13,838,290
Net income	7,072,990	9,628,734	8,315,660	13,448,624	12,141,341
Other comprehensive income (loss), net of tax	1,053,838	(3,922,754)	(4,332,462)	(1,732,530)	6,595,129
Total comprehensive income	8,126,828	5,705,980	3,983,198	11,716,094	18,736,470
Earnings per share (NTD)	0.58	0.79	0.68	1.08	0.97

Note 1 : EPS was calculated based on weighted average 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 2014 to 2018

Year	CPA	Audit Opinion
2014	Shao-Pin Kuo, Meng-Lin Song	Unqualified-Modified Opinion
2015	Shao-Pin Kuo, Meng-Lin Song	Unqualified-Modified 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**

Financial Analysis

Financial Analysis- Consolidated

Item		2018	2017	2016	2015	2014
Capital structure	Debt ratio (%)	43.35	45.69	43.43	32.18	28.17
	Long-term funds to property, plant and equipment (%)	158.30	129.95	124.22	148.23	155.02
Liquidity	Current ratio (%)	282.96	158.03	153.48	196.53	201.35
	Quick ratio (%)	222.80	121.72	114.73	155.43	150.93
	Times interest earned (times)	1.79	4.24	4.33	16.35	14.31
Operating performance	Average receivables turnover (times)	6.75	6.78	6.98	6.95	7.15
	Days sales outstanding	54	54	52	53	51
	Average inventory turnover (times)	7.04	6.93	6.78	6.88	7.40
	Average payables turnover (times)	19.26	18.26	18.34	18.65	15.93
	Average inventory turnover days	52	53	54	53	49
	Property, plant and equipment turnover (times)	0.80	0.69	0.72	0.82	0.85
	Total assets turnover (times)	0.40	0.38	0.41	0.45	0.46
Profitability	Return on assets (%)	1.28	2.21	1.35	4.07	3.96
	Return on stockholders' equity attributable to the parent company (%)	3.37	4.48	3.75	6.00	5.66
	Pre-tax income to paid-in capital (%)	5.32	8.54	7.35	11.20	11.11
	Net profit margin (%)	1.75	4.44	2.61	8.86	8.20
	Earnings per share (NTD)	0.58	0.79	0.68	1.08	0.97
Cash Flow	Cash flow ratio (%)	102.08	59.59	64.53	123.92	93.10
	Cash flow adequacy ratio (%)	86.78	81.49	75.74	89.02	90.40
	Cash flow reinvestment ratio (%)	4.03	4.68	4.11	5.93	5.44
Leverage	Operating leverage	19.11	16.86	17.77	9.78	9.82
	Financial leverage	1.91	1.58	1.25	1.05	1.07

Analysis of changes of over 20% between 2017 and 2018:

1. Long-term funds to property, plant and equipment: Due to increase in long-term capital and decrease in net worth of property, plant and equipment.
2. Current ratio: Due to decrease in short-term loans and current portion of long-term liabilities.
3. Quick ratio: Due to decrease in short-term loans and current portion of long-term liabilities.
4. Times interest earned: Due to decrease in income before income tax.
5. Return on assets: Due to decrease in net income.
6. Return on stockholders' equity attributable to the parent company: Due to decrease in net income attributable to stockholders of the parent.
7. Pre-tax income to paid-in capital: Due to decrease in income before income tax attributable to stockholders of the parent.
8. Net profit margin: Due to decrease in net income.
9. Earnings per share: Due to decrease in net income attributable to stockholders of the parent.
10. Cash flow reinvestment ratio: Due to decrease in short-term loans and current portion of long-term liabilities.
11. Financial leverage: Due to decrease in operating income.

Financial Analysis (Continue)

Note 1 : The calculation of EPS was based on weighted average 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) / net worth of 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 sale / 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 net worth of property, plant and equipment
   (7) Total assets turnover = net sales / average total assets
4. Profitability
   (1) Return on assets = [net income + interest expenses (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 = (net operating revenue – 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		2018	2017	2016	2015	2014
Capital structure	Debt ratio (%)	31.12	33.82	33.78	30.39	25.75
	Long-term funds to property, plant and equipment (%)	242.91	186.51	160.90	161.31	163.10
Liquidity	Current ratio (%)	378.16	181.87	174.18	174.25	179.35
	Quick ratio (%)	313.86	150.22	139.84	131.82	138.53
	Times interest earned (times)	9.14	12.13	11.00	18.45	16.96
Operating performance	Average receivables turnover (times)	6.02	5.69	6.50	6.99	7.02
	Days sales outstanding	61	64	56	52	52
	Average inventory turnover (times)	6.73	6.90	7.00	6.77	7.10
	Average payables turnover (times)	18.60	18.47	19.18	18.83	17.28
	Average inventory turnover days	54	53	52	54	51
	Property, plant and equipment turnover (times)	1.16	0.93	0.83	0.81	0.80
	Total assets turnover (times)	0.43	0.41	0.42	0.42	0.42
Profitability	Return on assets (%)	2.47	3.21	2.73	4.41	4.37
	Return on equity (%)	3.37	4.48	3.75	6.00	5.66
	Pre-tax income to paid-in capital (%)	5.00	8.26	7.14	10.93	10.87
	Net profit margin (%)	5.32	7.28	6.13	10.29	10.07
	Earnings per share (NTD)	0.58	0.79	0.68	1.08	0.97
Cash Flow	Cash flow ratio (%)	182.12	102.75	119.78	132.17	112.48
	Cash flow adequacy ratio (%)	135.24	121.08	97.08	92.02	92.12
	Cash flow reinvestment ratio (%)	4.20	5.95	5.56	5.55	5.35
Leverage	Operating leverage	7.82	8.70	10.55	8.99	8.11
	Financial leverage	1.06	1.09	1.08	1.04	1.05

Analysis of changes of over 20% between 2017 and 2018:

1. Long-term funds to property, plant and equipment and Property, plant and equipment turnover: Due to decrease in net worth of property, plant and equipment.
2. Current ratio, Quick ratio and Cash flow ratio: Due to decrease in current liabilities.
3. 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 decrease in income before tax and net income.
4. Cash flow reinvestment ratio: Due to increase in working capital.

Financial Analysis (Continue)

Note 1 : The calculation of EPS was based on weighted average 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) / net worth of 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 sale / 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 net worth of property, plant and equipment
   (7) Total asset turnover = net sales / average total assets
4. Profitability
   (1) Return on assets = [net income + interest expenses (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 = (net operating revenue – 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 2018 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.

United Microelectronics Corporation

Chairperson of the Audit Committee: Cheng-Li Huang

March 6, 2019

**UNITED MICROELECTRONICS CORPORATION
AND SUBSIDIARIES
CONSOLIDATED FINANCIAL STATEMENTS
WITH REPORT OF INDEPENDENT AUDITORS
FOR THE YEARS ENDED
DECEMBER 31, 2018 AND 2017**

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.

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, 2018 and 2017, and the related consolidated statements of comprehensive income, changes in equity and cash flows for the years ended December 31, 2018 and 2017, 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, 2018 and 2017, and their consolidated financial performance and cash flows for the years ended December 31, 2018 and 2017, 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 2018 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.

1. Revenue Recognition

Net sales recognized by the Company amounted to NT$142,706 million for the year ended December 31, 2018. The timing of revenue recognition for the Company's wafer fabrication sales mainly depends on the trade term, Free Carrier, which remained unchanged after adopting IFRS 15 "Revenue from Contracts with Customers" (IFRS 15). Based on IFRS 15, the Company recognizes revenue as it satisfies the performance obligation upon transfer of promised goods to carriers approved by the customers. However, there exists a risk of revenues being recorded in an inappropriate period before the Company satisfies the performance obligation where physical deliveries have not been fulfilled. Therefore, we considered this a key audit matter.

Our audit procedures included, but not limited to, assessing the appropriateness of the accounting policy of revenue recognition, including the reassessment of revenue recognition upon the adoption of IFRS 15; evaluating and testing the design and operating effectiveness of internal controls around revenue recognition under IFRS 15; selecting samples to perform tests of details and reviewing significant terms and condition of contracts to verify the occurrence of transactions and reasonableness of the timing of revenue recognition; confirming significant contractual terms; performing cut-off testing by selecting a sample of transactions from either side of year-end and vouching them to supporting evidences to ensure the reasonableness of revenue cut-off; reviewing significant subsequent sales returns and discounts to verify the occurrence of sales transactions recorded before the balance sheet date; and executing tests of journal entries prepared by management and reviewing manual sales journal entries to validate the consistency with the substance of transactions.

We also assessed the adequacy of disclosures of operating revenues, including the transitional disclosures for the adoption of IFRS 15. Please refer to Note 6 to the Company's consolidated financial statements.

2. Valuation for slow-moving inventories

As of December 31, 2018, the Company's net inventories amounted to NT$18,203 million. As the semiconductor industry is characterized by rapid changes in technology, management has to evaluate loss due to write-downs of slow moving inventories to their net realizable values. Considering the amount of inventories was significant and the identification of slow-moving inventories and the assessment of the amount of inventory write-downs require significant management judgement, we determined this a key audit matter.

Our audit procedures included, but not limited to, evaluating and testing the design and operating effectiveness of internal controls around slow-moving inventories, including the methodologies and assumptions used as well as the application controls in relation to the calculation of inventory aging; testing key assumptions relating to the valuation of write-downs from slow-moving inventories, including performing a retrospective evaluation by comparing actual results to the estimate made in the prior year to determine the reasonableness of management's estimates of slow-moving inventories.

We also assessed the adequacy of disclosures of inventories. Please refer to Notes 5 and 6 to the Company's consolidated financial statements.

3. Valuation of financial assets in Level 3 fair value measurement

As of December 31, 2018, the Company invested in financial assets, of which NT$11,318 million was categorized as level 3 of fair value hierarchy (as significant pricing inputs to them are unobservable), mainly comprised of common stocks and preferred stocks of unlisted companies. Valuation of these level 3 investments involves application of different valuation techniques and assumptions in relation to the use of unobservable inputs, including cash flow forecasts, the selection of comparable companies or equity transaction prices, as well as the application of assumptions such as discount rates, discounts for lack of marketability and valuation multiples. Considering the determination of aforementioned assumptions involved management judgments which could significantly affect the reported fair value of the financial assets, we considered this a key audit matter.

Our audit procedures included, but not limited to, evaluating and testing the design and operating effectiveness of internal controls around valuation of financial assets, including the classification and measurement of financial assets upon the initial application of IFRS 9 as well as management's decision and approval of the methods and assumptions used in valuation model; reassessing the reasonableness of cash flow forecasts, the selection of comparable companies or equity transaction prices, as well as the application of assumptions such as discount rates, discounts for lack of marketability and valuation multiples for individual investments with the assistance of our internal valuation specialists on a sample basis; assessing whether the valuations performed by management were within a reasonable range compared to the valuations performed by our internal valuation specialists; and validating the accuracy of inputs of financial information of the selected comparable companies by benchmarking them with public information.

We also assessed the adequacy of disclosures of financial assets, including the transitional disclosures for the adoption of IFRS 9. Please refer to Notes 5 and 12 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$8,714 million and NT$8,998 million, representing 2.39% and 2.28% of consolidated total assets as of December 31, 2018 and 2017, respectively. The related shares of profits (loss) from the associates and joint ventures under the equity method amounted to NT$(751) million and NT$308 million, representing (34.37)% and 3.94% of the consolidated income before tax for the years ended December 31, 2018 and 2017, respectively, and the related shares of other comprehensive income (loss) from the associates and joint ventures under the equity method amounted to NT$(225) million and NT$1,307 million, representing (6.27)% and 50.34% of the consolidated total comprehensive income (loss) for the years ended December 31, 2018 and 2017, respectively.

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.

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 2018 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, 2018 and 2017.

/s/Chiu, Wan-Ju

/s/Hsu, Hsin-Min

Ernst & Young, Taiwan

March 6, 2019

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.

English Translation of Consolidated Financial Statements Originally Issued in Chinese
UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
December 31, 2018 and 2017
(Expressed in Thousands of New Taiwan Dollars)

Assets	Notes	As of December 31, 2018	As of December 31, 2017
Current assets			
Cash and cash equivalents	4, 6(1), 6(27)	$ 83,661,739	$ 81,674,572
Financial assets at fair value through profit or loss, current	4, 5, 6(2), 12(7)	528,450	716,918
Contract assets, current	4, 6(19)	92,210	-
Notes receivable	4	118	6,283
Accounts receivable, net	4, 6(3), 6(27)	23,735,989	20,876,417
Accounts receivable-related parties, net	4, 7	138,912	91,065
Other receivables	4	708,432	1,175,307
Current tax assets	4	20,856	507,871
Inventories, net	4, 5, 6(4), 6(27)	18,203,119	18,257,500
Prepayments		11,225,322	13,209,550
Other current assets		2,878,285	2,645,003
Total current assets		141,193,432	139,160,486
Non-current assets			
Financial assets at fair value through profit or loss, noncurrent	4, 5, 6(2), 12(7)	11,555,847	191,005
Financial assets at fair value through other comprehensive income, noncurrent	4, 5, 6(5), 12(7)	11,585,477	-
Available-for-sale financial assets, noncurrent	4, 5, 6(6), 7, 12(7)	-	20,636,332
Financial assets measured at cost, noncurrent	4, 6(7)	-	2,218,472
Investments accounted for under the equity method	4, 6(8), 7	10,363,977	10,976,940
Property, plant and equipment	4, 5, 6(9), 6(27), 8	172,846,595	205,741,681
Intangible assets	4, 6(10), 7	2,991,804	3,787,509
Deferred tax assets	4, 5, 6(24)	6,387,909	6,071,582
Prepayment for equipment		661,402	286,090
Refundable deposits	8	2,757,399	1,903,041
Other noncurrent assets-others	8	4,261,064	3,126,024
Total non-current assets		223,411,474	254,938,676
Total assets		$ 364,604,906	$ 394,099,162

(continued)

English Translation of Consolidated Financial Statements Originally Issued in Chinese
UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
December 31, 2018 and 2017
(Expressed in Thousands of New Taiwan Dollars)

Liabilities and Equity	Notes	As of December 31, 2018	As of December 31, 2017
Current liabilities			
Short-term loans	6(11), 6(26), 6(27)	$ 13,103,808	$ 25,445,540
Contract liabilities, current	6(19)	932,371	-
Notes and accounts payable		6,801,745	6,535,570
Other payables	7	12,455,861	12,962,286
Payables on equipment		4,008,142	4,671,802
Current tax liabilities	4	2,059,172	4,097,568
Current portion of long-term liabilities	4, 6(12), 6(13), 6(26), 6(27), 8, 12(7)	5,121,396	27,363,822
Other current liabilities	6(15), 6(16), 6(26), 7	5,416,842	6,984,482
Total current liabilities		49,899,337	88,061,070
Non-current liabilities			
Bonds payable	4, 6(12), 6(26), 12(7)	38,878,947	23,675,861
Long-term loans	6(13), 6(26), 6(27), 8, 12(7)	28,204,054	29,643,284
Deferred tax liabilities	4, 5, 6(24)	1,965,693	1,631,705
Net defined benefit liabilities, noncurrent	4, 5, 6(14)	4,167,174	4,138,519
Guarantee deposits	6(26)	612,903	469,491
Other noncurrent liabilities-others	4, 6(15), 6(26), 9(6)	34,340,307	32,441,648
Total non-current liabilities		108,169,078	92,000,508
Total liabilities		158,068,415	180,061,578
Equity attributable to the parent company			
Capital	4, 6(17)		
Common stock		124,243,187	126,243,187
Additional paid-in capital	4, 6(12), 6(17)		
Premiums		36,278,383	36,862,383
Treasury stock transactions		1,737,113	1,753,028
The differences between the fair value of the consideration paid or received from acquiring or disposing subsidiaries and the carrying amounts of the subsidiaries		573,336	573,336
Recognition of changes in subsidiaries' ownership		39	-
Share of changes in net assets of associates and joint ventures accounted for using equity method		108,613	97,482
Employee stock options		178,401	-
Stock options		1,515,297	1,572,121
Other		8,181	-
Retained earnings	6(17)		
Legal reserve		10,865,280	9,902,407
Unappropriated earnings		50,723,263	38,163,492
Other components of equity	4		
Exchange differences on translation of foreign operations		(5,692,326)	(5,715,585)
Unrealized gains or losses on financial assets measured at fair value through other comprehensive income		(8,819,556)	-
Unrealized gains or losses on available-for-sale financial assets		-	8,347,962
Gains or losses on hedging instruments		(2,058)	-
Treasury stock	4, 6(17), 6(18)	(5,647,430)	(4,719,037)
Total equity attributable to the parent company		206,069,723	213,080,776
Non-controlling interests	6(17), 6(27)	466,768	956,808
Total equity		206,536,491	214,037,584
Total liabilities and equity		$ 364,604,906	$ 394,099,162

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, 2018 and 2017
(Expressed in Thousands of New Taiwan Dollars, Except for Earnings per Share)

	Notes	For the years ended December 31, 2018	2017
Operating revenues	4, 6(19), 7, 14		
Sales revenues		$ 143,786,087	$ 144,454,670
Less: Sales returns and discounts		(1,080,084)	(1,497,126)
Net sales		142,706,003	142,957,544
Other operating revenues		8,546,568	6,327,162
Net operating revenues		151,252,571	149,284,706
Operating costs	4, 6(4), 6(14), 6(18), 6(20), 7, 14		
Costs of goods sold		(123,794,988)	(118,252,107)
Other operating costs		(4,617,556)	(3,974,841)
Operating costs		(128,412,544)	(122,226,948)
Gross profit		22,840,027	27,057,758
Operating expenses	4, 6(3), 6(14), 6(18), 6(19), 6(20), 7, 14		
Sales and marketing expenses		(3,901,912)	(4,233,830)
General and administrative expenses		(4,823,391)	(4,239,713)
Research and development expenses		(13,025,139)	(13,669,589)
Expected credit losses		(409,237)	-
Subtotal		(22,159,679)	(22,143,132)
Net other operating income and expenses	4, 6(15), 6(21), 14	5,116,884	1,653,695
Operating income		5,797,232	6,568,321
Non-operating income and expenses			
Other income	4	1,391,376	875,587
Other gains and losses	4, 6(22), 6(27), 7	(1,128,290)	1,001,679
Finance costs	6(22)	(2,851,225)	(2,495,162)
Share of profit or loss of associates and joint ventures	4, 6(8), 14	(667,701)	276,962
Bargain purchase gain		-	5,130
Exchange gain, net	4,12	-	1,565,905
Exchange loss, net	4,12	(356,993)	-
Subtotal		(3,612,833)	1,230,101
Income from continuing operations before income tax		2,184,399	7,798,422
Income tax benefit (expense)	4, 5, 6(24), 14	458,653	(1,167,157)
Net income		2,643,052	6,631,265
Other comprehensive income (loss)	6(23)		
Items that will not be reclassified subsequently to profit or loss			
Remeasurements of defined benefit pension plans	4, 5, 6(14)	(55,060)	(184,186)
Unrealized gains or losses on financial assets at fair value through other comprehensive income		1,454,018	-
Gains or losses on hedging instruments which will not be reclassified subsequently to profit or loss	4	(2,572)	-
Share of other comprehensive income (loss) of associates and joint ventures which will not be reclassified subsequently to profit or loss		(475,139)	1,221
Income tax related to items that will not be reclassified subsequently	4, 5, 6(24)	112,384	31,311
Items that may be reclassified subsequently to profit or loss			
Exchange differences on translation of foreign operations		(47,009)	(5,975,203)
Unrealized gains or losses on available-for-sale financial assets		-	581,439
Share of other comprehensive income (loss) of associates and joint ventures which may be reclassified subsequently to profit or loss		(23,942)	1,350,183
Income tax related to items that may be reclassified subsequently	4, 5, 6(24)	(12,736)	160,880
Total other comprehensive income (loss), net of tax		949,944	(4,034,355)
Total comprehensive income		$ 3,592,996	$ 2,596,910
Net income attributable to:			
Stockholders of the parent		$ 7,072,990	$ 9,628,734
Non-controlling interests		(4,429,938)	(2,997,469)
		$ 2,643,052	$ 6,631,265
Comprehensive income attributable to:			
Stockholders of the parent		$ 8,126,828	$ 5,705,980
Non-controlling interests		(4,533,832)	(3,109,070)
		$ 3,592,996	$ 2,596,910
Earnings per share (NTD)	4, 6(25)		
Earnings per share-basic		$ 0.58	$ 0.79
Earnings per share-diluted		$ 0.55	$ 0.74

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, 2018 and 2017
(Expressed in Thousands of New Taiwan Dollars)

		Equity Attributable to the Parent Company											
		Capital		Retained Earnings		Other Components of Equity							
	Notes	Common Stock	Additional Paid-in Capital	Legal 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	Unrealized Gains or Losses on Available-for-Sale Financial Assets	Gains or Losses on Hedging Instruments	Treasury Stock	Total	Non-Controlling Interests	Total Equity
Balance as of January 1, 2017	6(17)	$ 126,243,187	$ 40,997,092	$ 9,070,841	$ 38,584,335	$ 63,437	$ -	$ 6,340,040	$ -	$ (4,719,037)	$ 216,579,895	$ 2,161,729	$ 218,741,624
Appropriation and distribution of 2016 retained earnings	6(17)												
Legal reserve		-	-	831,566	(831,566)	-	-	-	-	-	-	-	-
Cash dividends		-	-	-	(6,112,159)	-	-	-	-	-	(6,112,159)	-	(6,112,159)
Net income for the year ended December 31, 2017	6(17)	-	-	-	9,628,734	-	-	-	-	-	9,628,734	(2,997,469)	6,631,265
Other comprehensive income (loss), net of tax for the year ended December 31, 2017	6(17), 6(23)	-	-	-	(151,654)	(5,779,022)	-	2,007,922	-	-	(3,922,754)	(111,601)	(4,034,355)
Total comprehensive income (loss)		-	-	-	9,477,080	(5,779,022)	-	2,007,922	-	-	5,705,980	(3,109,070)	2,596,910
Share of changes in net assets of associates and joint ventures accounted for using equity method		-	(12,732)	-	-	-	-	-	-	-	(12,732)	-	(12,732)
The differences between the fair value of the consideration paid or received from acquiring or disposing subsidiaries and the carrying amounts of the subsidiaries	4, 6(17)	-	(134,050)	-	-	-	-	-	-	-	(134,050)	(1,174,564)	(1,308,614)
Changes in subsidiaries' ownership	4, 6(17)	-	-	-	(909,241)	-	-	-	-	-	(909,241)	175,413	(733,828)
Adjustments for dividends subsidiaries received from parent company		-	8,040	-	-	-	-	-	-	-	8,040	-	8,040
Others	6(17)	-	-	-	(2,044,957)	-	-	-	-	-	(2,044,957)	2,903,300	858,343
Balance as of December 31, 2017	6(17)	126,243,187	40,858,350	9,902,407	38,163,492	(5,715,585)	-	8,347,962	-	(4,719,037)	213,080,776	956,808	214,037,584
Impact of retroactive applications	3, 6(17)	-	-	-	17,969,706	3,052	(9,867,013)	(8,347,962)	-	-	(242,217)	1,597	(240,620)
Adjusted balance as of January 1, 2018	6(17)	126,243,187	40,858,350	9,902,407	56,133,198	(5,712,533)	(9,867,013)	-	-	(4,719,037)	212,838,559	958,405	213,796,964
Appropriation and distribution of 2017 retained earnings	6(17)												
Legal reserve		-	-	962,873	(962,873)	-	-	-	-	-	-	-	-
Cash dividends		-	-	-	(8,557,023)	-	-	-	-	-	(8,557,023)	-	(8,557,023)
Net income for the year ended December 31, 2018	6(17)	-	-	-	7,072,990	-	-	-	-	-	7,072,990	(4,429,938)	2,643,052
Other comprehensive income (loss), net of tax for the year ended December 31, 2018	6(17), 6(23)	-	-	-	(22,341)	20,207	1,058,030	-	(2,058)	-	1,053,838	(103,894)	949,944
Total comprehensive income (loss)		-	-	-	7,050,649	20,207	1,058,030	-	(2,058)	-	8,126,828	(4,533,832)	3,592,996
Share-based payment transaction	4, 6(18)	-	696,226	-	-	-	-	-	-	2,203,443	2,899,669	-	2,899,669
Treasury stock acquired	4, 6(17)	-	-	-	-	-	-	-	-	(6,261,018)	(6,261,018)	-	(6,261,018)
Treasury stock cancelled	4, 6(17)	(2,000,000)	(1,129,182)	-	-	-	-	-	-	3,129,182	-	-	-
Share of changes in net assets of associates and joint ventures accounted for using equity method		-	11,131	-	10,573	-	(10,573)	-	-	-	11,131	-	11,131
Disposal of subsidiaries	6(27)	-	-	-	-	-	-	-	-	-	-	(7,074)	(7,074)
Changes in subsidiaries' ownership	4, 6(17)	-	39	-	(475,311)	-	-	-	-	-	(475,272)	(278,613)	(753,885)
Adjustments for dividends subsidiaries received from parent company		-	11,442	-	-	-	-	-	-	-	11,442	-	11,442
Others	6(17)	-	(48,643)	-	(2,475,950)	-	-	-	-	-	(2,524,593)	4,327,882	1,803,289
Balance as of December 31, 2018	6(17)	$ 124,243,187	$ 40,399,363	$ 10,865,280	$ 50,723,263	$ (5,692,326)	$ (8,819,556)	$ -	$ (2,058)	$ (5,647,430)	$ 206,069,723	$ 466,768	$ 206,536,491

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, 2018 and 2017
(Expressed in Thousands of New Taiwan Dollars)

	For the years ended December 31, 2018	For the years ended December 31, 2017
Cash flows from operating activities:		
Net income before tax	$ 2,184,399	$ 7,798,422
Adjustments to reconcile net income before tax to net cash provided by operating activities:		
Depreciation	49,948,589	50,965,120
Amortization	2,100,130	2,133,726
Expected credit losses	409,237	-
Bad debt reversal	-	(1,752)
Net loss (gain) of financial assets and liabilities at fair value through profit or loss	1,167,735	(598,270)
Interest expense	2,768,672	2,406,872
Interest income	(789,001)	(353,159)
Dividend income	(602,375)	(522,428)
Share-based payment	695,669	-
Share of loss (profit) of associates and joint ventures	667,701	(276,962)
Gain on disposal of property, plant and equipment	(136,743)	(82,397)
Gain on disposal of other assets	-	(6,601)
Loss (gain) on disposal of investments	19,286	(1,276,956)
Impairment loss on financial assets	-	950,335
Impairment loss on non-financial assets	46,225	-
Exchange loss (gain) on financial assets and liabilities	1,217,590	(2,432,098)
Bargain purchase gain	-	(5,130)
Amortization of deferred government grants	(3,885,722)	(1,469,616)
Income and expense adjustments	53,626,993	49,430,684
Changes in operating assets and liabilities:		
Financial assets and liabilities at fair value through profit or loss	789,666	520,335
Contract assets	(357,515)	-
Notes receivable and accounts receivable	(1,382,668)	1,587,562
Other receivables	618,317	(261,834)
Inventories	(46,497)	(1,565,132)
Prepayments	409,962	(2,014,104)
Other current assets	333,557	(2,383,660)
Contract fulfillment costs	(448,933)	-
Contract liabilities	(3,020,517)	-
Notes and accounts payable	257,044	(185,907)
Other payables	(426,302)	727,300
Other current liabilities	191,559	1,803,309
Net defined benefit liabilities	(26,405)	(14,562)
Other noncurrent liabilities-others	-	(209,250)
Cash generated from operations	52,702,660	55,233,163
Interest received	666,774	329,194
Dividend received	782,157	584,612
Interest paid	(2,221,301)	(1,905,718)
Income tax paid	(995,314)	(1,766,856)
Net cash provided by operating activities	50,934,976	52,474,395

(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, 2018 and 2017
(Expressed in Thousands of New Taiwan Dollars)

	For the years ended December 31,	
	2018	2017
Cash flows from investing activities:		
Acquisition of financial assets at fair value through profit or loss	$ (593,563)	$ (138,022)
Proceeds from disposal of financial assets at fair value through profit or loss	1,061	18,789
Acquisition of available-for-sale financial assets	-	(998,216)
Proceeds from disposal of available-for-sale financial assets	-	2,159,636
Acquisition of financial assets measured at cost	-	(14,419)
Proceeds from disposal of financial assets measured at cost	-	361
Acquisition of investments accounted for under the equity method	(840,000)	(204,280)
Increase in prepayment for investments	-	(17,200)
Proceeds from capital reduction and liquidation of investments	61,800	2,101,791
Disposal of subsidiaries	(9,813)	-
Derecognition of hedging financial assets and liabilities	(2,572)	-
Acquisition of property, plant and equipment	(19,590,075)	(44,236,276)
Proceeds from disposal of property, plant and equipment	200,991	119,613
Increase in refundable deposits	(1,674,984)	(109,627)
Decrease in refundable deposits	691,807	424,706
Acquisition of intangible assets	(838,675)	(1,283,938)
Government grants related to assets acquisition	7,129,770	6,755,920
Increase in other noncurrent assets-others	(36,440)	(30,294)
Decrease in other noncurrent assets-others	1,090	35,864
Net cash used in investing activities	(15,499,603)	(35,415,592)
Cash flows from financing activities:		
Increase in short-term loans	22,021,005	48,804,321
Decrease in short-term loans	(34,309,253)	(42,925,604)
Proceeds from bonds issued	-	13,700,000
Bonds issuance costs	-	(15,785)
Redemption of bonds	(7,500,000)	(7,500,000)
Proceeds from long-term loans	758,500	12,000,708
Repayments of long-term loans	(2,638,697)	(7,602,596)
Increase in guarantee deposits	213,432	194,555
Decrease in guarantee deposits	(125,301)	(84,192)
Cash dividends	(8,557,684)	(6,103,195)
Treasury stock acquired	(6,148,273)	-
Treasury stock sold to employees	2,204,000	-
Acquisition of subsidiaries	-	(1,308,614)
Change in non-controlling interests	597,385	1,994
Net cash (used in) provided by financing activities	(33,484,886)	9,161,592
Effect of exchange rate changes on cash and cash equivalents	36,680	(2,124,804)
Net increase in cash and cash equivalents	1,987,167	24,095,591
Cash and cash equivalents at beginning of year	81,674,572	57,578,981
Cash and cash equivalents at end of year	$ 83,661,739	$ 81,674,572

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, 2018 and 2017

(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.

2. DATE AND PROCEDURES OF AUTHORIZATION OF FINANCIAL STATEMENTS FOR ISSUE

The consolidated financial statements of UMC and its subsidiaries ("the Company") were authorized for issue in accordance with a resolution of the Board of Directors' meeting on March 6, 2019.

3. NEWLY ISSUED OR REVISED STANDARDS AND INTERPRETATIONS

A. 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, 2018. Apart from the impact of the standards and interpretations which is described below, all other standards and interpretations have no material impact on the Company's financial position and performance.

(1) IFRS 9 "Financial Instruments"

IFRS 9 "Financial Instruments" (IFRS 9) replaced IAS 39 "Financial Instruments: Recognition and Measurement" (IAS 39) for annual periods beginning on or after January 1, 2018, which resulted in an impact on all three aspects of the accounting for financial instruments: classification and measurement; impairment; and hedge accounting.

(2) IFRS 15 "Revenue from Contracts with Customers" with its Amendment "Clarifications to IFRS 15 Revenue from Contracts with Customers"

The core principle of IFRS 15 "Revenue from Contracts with Customers" (IFRS 15) is that revenue is recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. IFRS 15 establishes a five-step model that will apply to revenue earned from a contract with a customer (with limited exceptions), regardless of the type of revenue transaction or the industry.

(3) The Company elected to adopt these standards using the modified retrospective method recognizing the cumulative effect of initially applying IFRS 9 and IFRS 15 at January 1, 2018, and not to restate the consolidated financial statements for the year ended December 31, 2017. The Company's consolidated financial statements for the year ended December 31, 2017 were prepared in accordance with IAS 39, IAS 18 and related interpretations issued, revised or amended.

The impact on assets, liabilities and equity at the date of initial application of IFRS 9 and IFRS 15 are as below:

IFRS 9

a. Financial assets measured at cost

The Company elected to designate certain of these financial assets as financial assets at fair value through other comprehensive income (FVOCI) and the others as financial assets at fair value through profit or loss (FVTPL) at the date of initial application. In accordance with the requirement of IFRS 9, these financial assets must be measured at fair value.

b. Available-for-sale financial assets

In accordance with the requirement of IFRS 9, the Company elected to designate equity instruments that are not held for trading as financial assets at FVOCI and classified the remaining financial assets as financial assets at FVTPL.

c. Impairment of financial assets

Under IFRS 9, impairment assessment is not required for equity instruments. Therefore, as the Company elected to classify certain equity investments as financial assets at FVOCI, the Company reclassified the related accumulated impairment loss from retained earnings to other component of equity at the date of initial application. The expected credit losses for accounts receivable or contract assets that result from transactions within the scope of IFRS 15 are evaluated by applying the simplified approach. The aforementioned impairment evaluation requirement differs from the current incurred loss model and had no material impact on the Company.

IFRS 15

Prior to adopting IFRS 15, the Company recognized revenue upon the delivery of the wafers to carriers approved by the customers, at which point in time, the title and risk of loss for the wafers were transferred to the customers. Consideration received from customers prior to the Company having transferred risks and rewards were accounted for as advance receipts as a component of other current liabilities. In accordance with the requirements of IFRS 15, the Company recognizes revenue as the Company satisfies its performance obligations to customers upon transfer of control of promised goods and services. For certain contracts that the Company recognizes revenue as it satisfies its performance obligations over time, contract assets are recognized if the Company does not have unconditional rights to the consideration. Consideration received from customers prior to the Company having satisfied its performance obligations are accounted for as contract liabilities and the associated costs incurred to fulfill the contracts are recognized on the consolidated balance sheet as contract fulfillment costs (classified under other current assets) or inventories. In accordance with the requirement of IFRS 15, allowance for sales returns and discounts are presented as refund liabilities (classified under other current liabilities), which was presented as a contra-account to accounts receivable prior to adopting IFRS 15.

The impact on assets, liabilities and equity as of January 1, 2018 were as follows:

Items	Carrying Amounts as of December 31, 2017	Adjustments Arising from Initial Application		Adjusted Carrying Amounts as of January 1, 2018	Descriptions
		IFRS 9	IFRS 15		
Contract assets, current	$-	$-	$129,042	$129,042	a.
Accounts receivable, net	20,876,417	-	983,438	21,859,855	a. b.
Accounts receivable-related parties, net	91,065	-	2,733	93,798	b.
Inventories, net	18,257,500	-	(102,800)	18,154,700	a.
Other current assets	2,645,003	-	120,799	2,765,802	a.
Financial assets at fair value through profit or loss, noncurrent	191,005	12,449,226	-	12,640,231	c.
Financial assets at fair value through other comprehensive income, noncurrent	-	10,131,459	-	10,131,459	d.
Available-for-sale financial assets, noncurrent	20,636,332	(20,636,332)	-	-	c.d.
Financial assets measured at cost, noncurrent	2,218,472	(2,218,472)	-	-	c.d.
Investments accounted for under the equity method	10,976,940	(25,997)	-	10,950,943	e.
Deferred tax assets	6,071,582	42,388	(1,489)	6,112,481	a. c. d.
Total effect on assets		$(257,728)	$1,131,723		

Items	Carrying Amounts as of December 31, 2017	Adjustments Arising from Initial Application		Adjusted Carrying Amounts as of January 1, 2018	Descriptions
		IFRS 9	IFRS 15		
Contract liabilities, current	$-	$-	$3,951,414	$3,951,414	a.
Current tax liabilities	4,097,568	-	1,611	4,099,179	a.
Other current liabilities	6,984,482	-	(2,861,466)	4,123,016	a. b.
Deferred tax liabilities	1,631,705	23,093	(37)	1,654,761	a. c.
Total effect on liabilities		$23,093	$1,091,522		
Retained earnings	$48,065,899	$17,930,334	$39,372	$66,035,605	a. c. d. e.
Other components of equity	2,632,377	(18,211,155)	(768)	(15,579,546)	a. b. c. d. e.
Non-controlling interests	956,808	-	1,597	958,405	a.
Total effect on equity		$(280,821)	$40,201		

a. Prior to adopting IFRS 15, the Company recognized revenue upon the delivery of the wafers to carriers approved by the customers, at which point in time, the title and risk of loss for the wafers are transferred to the customers. Consideration received from customers prior to the Company having satisfied its performance obligations were accounted for as advance receipts as a component of other current liabilities. After adopting IFRS 15, the Company recognizes revenue as the Company satisfies its performance obligations to customers upon transfer control of promised goods and services. For certain contracts that the Company recognizes revenue as it satisfies its performance obligations over time, contract assets are recognized if the Company does not have unconditional rights to the consideration. Consideration received from customers prior to the Company having satisfied its performance obligations are accounted for as contract liabilities and the associated costs incurred to fulfill the contracts are recognized on the consolidated balance sheet as contract fulfillment costs (classified under other current assets) or inventories. The aforementioned changes in revenue recognition resulted in an increase in current contract assets amounted to NT$129 million, a decrease in net accounts receivable amounted to NT$11 million, a decrease in net inventories amounted to NT$103 million, an increase in other current assets amounted to NT$121 million, a decrease in deferred tax assets amounted to NT$1 million, an increase in current contract liabilities amounted to NT$3,951 million, an increase in current tax liabilities amounted to NT$2 million, a decrease in other current liabilities amounted to NT$3,859 million, a decrease in deferred tax liabilities amounted to NT$37 thousand, an increase in retained earnings amounted to NT$39 million, a decrease in other components of equity amounted to NT$0.3 million and an increase in non-controlling interests amounted to NT$2 million.

b. After adopting IFRS 15, allowance for sales returns and discounts are presented as refund liabilities (classified under other current liabilities), which was presented as a contra-account to accounts receivable prior to adopting IFRS 15. The aforementioned change in the presentation of the Company's allowance for sales returns and discounts led to an increase in net accounts receivable amounted to NT$994 million, an increase in net accounts receivable-related parties amounted to NT$3 million, an increase in other current liabilities amounted to NT$997 million and a decrease in other components of equity amounted to NT$0.5 million.

c. In accordance with IFRS 9, the Company reclassified certain noncurrent available-for-sale financial assets and certain noncurrent financial assets measured at cost as noncurrent financial assets at FVTPL, amounting to NT$10,738 million and NT$1,955 million, respectively. In addition, the Company remeasured the fair value of financial assets and resulted in a decrease of NT$244 million, an increase in deferred tax assets amounted to NT$37 million, an increase in deferred tax liabilities amounted to NT$23 million, a decrease in retained earnings amounted to NT$234 million and an increase in other component of equity amounted to NT$4 million. At the date of initial application, the Company reclassified other component of equity to retained earnings, resulting in a decrease in other component of equity and an increase in retained earnings amounting to NT$3,754 million. After adjustment, the carrying amounts of noncurrent financial assets at FVTPL resulted in an increase of NT$12,449 million as of January 1, 2018.

d. In accordance with IFRS 9, the Company elected to designate its investments in equity instruments previously classified as available-for-sale amounted to NT$9,898 million and noncurrent financial assets measured at cost amounted to NT$263 million reclassified as noncurrent financial assets at FVOCI, because these investments are not held for trading. In addition, the Company remeasured the fair value of financial assets and resulted in a decrease of NT$30 million, an increase in deferred tax assets amounted to NT$5 million, and a decrease in other components of equity amounted to NT$25 million. At the date of initial application, the Company reclassified retained earnings to other component of equity, resulting in an increase in retained earnings and a decrease in other component of equity amounting to NT$12,899 million. After adjustment, the carrying amounts of noncurrent financial assets at FVOCI resulted in an increase of NT$10,131 million as of January 1, 2018.

e. With the adoption of IFRS 9 by associates accounted for using equity method, the corresponding adjustments made by the Company resulting in a decrease in investments accounted for using equity method amounted to NT$26 million, an increase in retained earnings amounted to NT$1,511 million and a decrease in other components of equity amounted to NT$1,537 million.

The following table shows the amount affected in the current period by the application of IFRS 15 as compared to IAS 18:

	As of December 31, 2018		
Items	Amounts in accordance with IFRS 15	Effect	Amounts in accordance with accounting policies for prior periods
Contract assets, current	$92,210	$(92,210)	$-
Accounts receivable, net	23,735,989	(1,206,340)	22,529,649
Accounts receivable-related parties, net	138,912	(1,358)	137,554
Inventories, net	18,203,119	91,332	18,294,451
Other current assets	3,586,717	(163,344)	3,423,373
Deferred tax assets	6,387,909	(69)	6,387,840
Total effect on assets		$(1,371,989)	
Contract liabilities, current	$932,371	$(932,371)	$-
Other current liabilities	5,416,842	(445,994)	4,970,848
Deferred tax liabilities	1,965,693	5,286	1,970,979
Total effect on liabilities		$(1,373,079)	
Additional paid-in capital	$40,399,363	$188	$40,399,551
Retained earnings	61,588,543	(2,490)	61,586,053
Other components of equity	(14,513,940)	4,022	(14,509,918)
Non-controlling interests	466,768	(630)	466,138
Total effect on equity		$1,090	

	For the year ended December 31, 2018		
Items	Amounts in accordance with IFRS 15	Effect	Amounts in accordance with accounting policies for prior periods
Operating revenue	$151,252,571	$99,791	$151,352,362
Operating costs	(128,412,544)	45,628	(128,366,916)
Operating expenses	(22,159,679)	(99,113)	(22,258,792)
Income tax benefit (expense)	458,653	(8,457)	450,196
Total effect on profit and loss		$37,849	

B. Standards issued by International Accounting Standards Board (IASB) which are endorsed by FSC, but not yet adopted by the Company are listed below:

No.	The projects of Standards or Interpretations	Effective for annual periods beginning on or after
IFRS 16	Leases	January 1, 2019
IFRIC 23	Uncertainty Over Income Tax Treatments	January 1, 2019
IAS 28	Long-term Interests in Associates and Joint Ventures	January 1, 2019
IFRS 9	Financial Instruments – Prepayment Features with Negative Compensation	January 1, 2019
	Improvements to International Financial Reporting Standards (2015 - 2017 cycle)	
IFRS 3	Business Combinations	January 1, 2019
IFRS 11	Joint Arrangements	January 1, 2019
IAS 12	Income Taxes	January 1, 2019
IAS 23	Borrowing Costs	January 1, 2019
IAS 19	Employee Benefits	January 1, 2019

The potential effects of adopting the standards or interpretations issued by IASB and endorsed by FSC on the Company's financial statements in future periods are summarized as below:

(4) IFRS 16 "Leases" ("IFRS 16")
The new standard requires lessees to account for all leases under one single accounting model (except for short-term or low-value asset lease exemptions), which is for lessees to recognize right-of-use assets and lease liabilities on the consolidated balance sheet and the depreciation expense and interest expense associated with those leases in the consolidated statements of comprehensive income. Lessors' classification remains unchanged as operating or finance leases, but additional disclosure information is required.

(5) IFRIC 23 "Uncertainty Over Income Tax Treatments"
The Interpretation clarifies application of recognition and measurement requirements in IAS 12 "Income Taxes" when there is uncertainty over income tax treatments.

(6) IAS 28 "Investment in Associates and Joint Ventures" (Amendment)
The amendment clarifies that an entity applies IFRS 9 to long-term interests in an associate or joint venture that form part of the net investment in the associate or joint venture before it applies IAS 28 "Investments in Associates and Joint Ventures" (IAS 28), and in applying IFRS 9, does not take account of any adjustments that arise from applying IAS 28.

(7) IFRS 9 "Financial Instruments" (Amendment)
The amendment allows financial assets with prepayment features that permit or require a party to a contract either to pay or receive reasonable compensation for the early termination of the contract, to be measured at amortised cost or at fair value through other comprehensive income.

(8) IAS 12 "Income Taxes"
The amendments clarify that an entity shall recognize the income tax consequences of dividends in profit or loss, other comprehensive income or equity according to where the entity originally recognized those past transactions or events.

(9) IAS 19 "Employee Benefits" (Amendment)
The amendments clarify that when a change in a defined benefit plan is made (such as amendment, curtailment or settlement, etc.), the entity should use the updated assumptions to remeasure its net defined benefit liability or asset.

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, 2019. Apart from item (4) explained below, the remaining standards and interpretations have no material impact on the Company's financial position and performance.

(10) IFRS 16
The Company elects not to reassess whether a contract is, or contains, a lease at the date of initial application (January 1, 2019) in accordance with the transition provision in IFRS 16. The Company is permitted to apply IFRS 16 to contracts that were previously identified as leases applying IAS 17 "Leases" and IFRIC 4 "Determining whether an Arrangement contains a Lease". The Company elects not to restate comparative information and applies the standard retrospectively only to contracts that are not completed at the date of initial application in accordance with the transition provision in IFRS 16. Instead, the Company will recognize the cumulative effect of initially applying IFRS 16 on January 1, 2019.

a. For leases that were classified as operating leases applying IAS 17, the Company expects to measure and recognize those leases as lease liability at the present value of the remaining lease payments, discounted using the lessee's incremental borrowing rate on January 1, 2019. On a lease-by-lease basis, the right-of-use asset is measured and recognized at an amount equal to the lease liability (adjusted by the amount of any prepaid lease payments). The Company assesses the cumulative effect at the date of initial application is primarily consisted of a decrease in prepayments amounting to NT$15 million; an increase in right-of-use assets amounting to NT$8,578 million; a decrease in other noncurrent assets-others amounting to NT$2,621 million; a decrease in other payables amounting to NT$40 million; an increase in lease liabilities amounting to NT$6,006 million; a decrease in additional paid-in capital-other amounting to NT$10 million; and a decrease in other components of equity amounting to NT$14 million.

b. The additional disclosures of lessee and lessor required by IFRS 16 will be disclosed in the relevant notes.

C. Standards issued by IASB but not yet endorsed by FSC (the effective dates are to be determined by FSC) are listed below:

No.	The projects of Standards or Interpretations	Effective for annual periods beginning on or after
IFRS 10 and IAS 28	Sale or Contribution of Assets between an Investor and its Associate or Joint Venture	To be determined by IASB
IFRS 17	Insurance Contracts	January 1, 2021
Amendments to IFRS 3	Definition of a Business	January 1, 2020
Amendments to IAS 1 and 8	Definition of Material	January 1, 2020

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:

(11) 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 (Amendment)

The amendments address the inconsistency between the requirements in IFRS 10 "Consolidated Financial Statements" (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. The effective date of this amendment has been deferred indefinitely, but early adoption is allowed.

(12) IFRS 3 "Business Combinations" - Definition of a Business (Amendment)

The amendments clarify the definition of a business in IFRS 3 Business Combinations. The amendments are intended to assist entities to determine whether a transaction should be accounted for as a business combination or as an asset acquisition.

IFRS 3 continues to adopt a market participant's perspective to determine whether an acquired set of activities and assets is a business. The amendments clarify the minimum requirements for a business; add guidance to help entities assess whether an acquired process is substantive; and narrow the definitions of a business and of outputs; etc.

(13) IAS 1 "Presentation of Financial Statements" and IAS 8 "Accounting Policies, Changes in Accounting Estimates and Errors" - Definition of Material (Amendment)

The main amendment is to clarify a new definition of material. It states that "information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements, which provide financial information about a specific reporting entity." The amendments clarify that materiality will depend on the nature or magnitude of information. An entity will need to assess whether the information, either individually or in combination with other information, is material in the context of the financial statements. A misstatement of information is material if it could reasonably be expected to influence decisions made by the primary users.

The Company is currently evaluating the potential impact of the aforementioned standards and interpretations listed (11) ~ (13) 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, 2018 and 2017

			Percentage of ownership (%) As of December 31,	
Investor	Subsidiary	Business nature	2018	2017
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 NEW BUSINESS INVESTMENT CORP. (NBI)	Investment holding	-	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	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	96.66
UMC, FORTUNE and TLC	NEXPOWER TECHNOLOGY CORP. (NEXPOWER)	Sales and manufacturing of solar power batteries	93.36	87.06
UMC and FORTUNE	WAVETEK MICROELECTRONICS CORPORATION (WAVETEK)	Sales and manufacturing of integrated circuits	78.47	78.47
UMC CAPITAL CORP.	UMC CAPITAL (USA)	Investment holding	100.00	100.00
TLC	SOARING CAPITAL CORP.	Investment holding	100.00	100.00
SOARING CAPITAL CORP.	UNITRUTH ADVISOR (SHANGHAI) CO., LTD.	Investment holding and advisory	100.00	100.00
GE	UNITED MICROCHIP CORPORATION	Investment holding	100.00	100.00
UMC INVESTMENT (SAMOA) LIMITED	UMC (BEIJING) LIMITED	Marketing support activities	-	100.00
FORTUNE	TERA ENERGY DEVELOPMENT CO., LTD. (TERA ENERGY)	Energy technical services	100.00	-
NBI	TERA ENERGY	Energy technical services	-	100.00
NBI	UNISTARS CORP.	High brightness LED packages	-	83.69
TERA ENERGY	EVERRICH ENERGY INVESTMENT (HK) LIMITED (EVERRICH-HK)	Investment holding	100.00	100.00
EVERRICH-HK	EVERRICH (SHANDONG) ENERGY CO., LTD.	Solar engineering integrated design services	100.00	100.00

Investor	Subsidiary	Business nature	Percentage of ownership (%) As of December 31, 2018	2017
OMNI	UNITED MICROTECHNOLOGY CORPORATION (NEW YORK)	Research and development	100.00	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)	Sales and marketing service	100.00	100.00
NEXPOWER	SOCIALNEX ITALIA 1 S.R.L.	Photovoltaic power plant	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	98.14	100.00
HEJIAN	UNITEDDS SEMICONDUCTOR (SHANDONG) CO., LTD.	Integrated circuits design services	100.00	100.00
UNITED MICROCHIP CORPORATION and HEJIAN	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Sales and manufacturing of integrated circuits	65.22	51.02

(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.

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 (before January 1, 2018: IAS 39), 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 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.

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 (before January 1, 2018: IAS 39) 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) <u>Translation of Foreign Currency Financial Statements</u>

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.

(7) <u>Current and Non-Current Distinction</u>

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.

(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 (EIR) 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 expected credit losses. 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 expected credit losses.

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 EIR method after initial recognition. Gains and losses are recognized in profit or loss when the liabilities are derecognized as well as through the EIR 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.

The summary of significant accounting policies applying in 2017 is as follows:

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 IAS 39 and the Regulations, financial assets of the Company are classified as financial assets at fair value through profit or loss, available-for-sale financial assets, held-to-maturity financial assets and notes, accounts and other receivables.

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 carried at fair value through profit or loss are initially recognized at fair value, and transaction costs are expensed in the income statement.

<u>Financial Assets</u>

a. Classification and subsequent measurement

i. Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss are comprised of financial assets held for trading and financial assets designated upon initial recognition at fair value through profit or loss.

Financial assets acquired for the purpose of selling or repurchasing in the near term, and derivative financial instruments that are not designated as hedging instruments in hedge accounting are classified as financial assets at fair value through profit or loss. Financial assets at fair value through profit or loss are measured at fair value with changes in fair value recognized in profit or loss.

ii. Available-for-sale financial assets

Available-for-sale investments are those non-derivative financial assets that are designated as available-for-sale or are not classified as financial assets at fair value through profit or loss, held-to-maturity financial assets, or loans and receivables. Available-for-sale financial investments are subsequently measured at fair value. Other than impairment losses which are recognized in profit or loss, subsequent measurement of available-for-sale equity instrument financial assets are recognized in other comprehensive income until the investment is derecognized, at which time the cumulative gain or loss is recognized in profit or loss.

If equity instrument investments do not have quoted prices in an active market and their fair value cannot be reliably measured, then they are classified as financial assets measured at cost on the balance sheet.

iii. Held-to-maturity financial assets

Non-derivative financial assets with fixed or determinable payments and fixed maturities are classified as held-to-maturity when the Company has the positive intention and ability to hold them to maturity.

After initial measurement held-to-maturity financial assets are measured at amortized cost using the effective interest rate (EIR) method, less impairment. Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or transaction costs. The EIR method amortization and impairment, if any, is recognized in profit or loss.

iv. Notes, accounts and other receivables

Notes and accounts receivable are creditors' rights as a result of sales of goods or services. Other receivables are any receivable not classified as notes and accounts receivable. Notes, accounts and other receivables are initially measured and recognized at their fair values and subsequently measured at amortized cost using the EIR method, less impairment losses. If the effect of discounting is immaterial, the short term notes, accounts and other receivables are measured at their nominal amount.

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.

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.

c. Impairment policy

The carrying amount of a financial asset is reduced as a result of impairment, except for accounts receivable for which the carrying amount is reduced through use of an allowance account. When an account receivable is deemed to be uncollectible, it is written off from the allowance account.

i. Notes, accounts and other receivables

The Company first assesses at each reporting date whether objective evidence of impairment exists for notes, accounts and other receivables that are individually significant. If there is objective evidence that an impairment loss has occurred, the amount of impairment loss is assessed individually. For notes, accounts and other receivables other than those mentioned above, the Company groups those assets with similar credit risk characteristics and collectively assesses them for impairment. If, in a subsequent period, the amount of the impairment loss decreases, and the decrease can be related objectively to an event occurring after the impairment was recognized, the previously recognized impairment loss is reversed and recognized through profit or loss. The reversal shall not result in a carrying amount of notes, accounts and other receivables that exceeds what the amortized cost would have been had the impairment not been recognized at the date the impairment is reversed.

ii. Other financial assets

The Company assesses, at each reporting date, whether there is objective evidence that a financial asset or a group of financial assets is impaired. A financial asset or a group of financial assets is deemed to be impaired if, and only if, there is objective evidence of impairment as a result of one or more loss events that has occurred since the initial recognition of the asset (an incurred “loss event”) and that loss event has an impact on the estimated future cash flows of the individual financial asset or a group of financial assets.

For the financial assets carried at amortized cost, the amount of the impairment loss is measured as the difference between the carrying amount and the present value of estimated future cash flows, discounted at the original effective interest rate. For equity investments classified as available-for-sale, objective evidence of an impairment would include a significant or prolonged decline in the fair value of the investment below its cost. When there is objective evidence of an impairment for available-for-sale equity securities, the full amount of the losses previously recognized in other comprehensive income is reclassified to profit or loss. Impairment losses recognized on equity investments cannot be reversed through profit or loss. Any subsequent increases in their fair value after impairment are recognized in other comprehensive income.

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. Gains or losses on the subsequent measurement including interest paid are recognized in profit or loss.

ii. Financial liabilities carried at amortized cost

Financial liabilities measured at amortized cost include interest bearing loans and borrowings that are subsequently measured using the EIR method after initial recognition. Gains and losses are recognized in profit or loss when the liabilities are derecognized as well as through the EIR 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) Cash flow hedges

The Company manages exposures arising from foreign currency exchange risk. With the adoption of IFRS 9 on January 1, 2018, 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):

(i) the cumulative gain or loss on the hedging instrument from inception of the hedge; and
(ii) 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.

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. 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.

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	5~11 years
Transportation equipment	5~7 years
Furniture and fixtures	1~9 years
Leasehold improvement	The shorter of lease terms or useful lives

(14) 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 EIR 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.

(15) 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 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.

(16) Bonds

Convertible 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 EIR 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 (before January 1, 2018: IAS 39).

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.

(17) 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.

(18) 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.

(19) Treasury Stock

UMC's own equity instruments repurchased (treasury shares) are recognized at repurchase cost and deducted from equity. Any difference between the carrying amount and the consideration is recognized in equity.

(20) Share-Based Payment Transactions

The cost of equity-settled transactions between the Company and its employees is measured at the fair value using an appropriate pricing model by reference to the market price of the equity instruments on the grant date.

The cost of equity-settled transactions is recognized, together with a corresponding increase in equity, over the periods in which the performance and/or service conditions are being fulfilled. The cumulative expense recognized for equity-settled transactions at each reporting 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 charge to profit or loss for a period represents the movement in cumulative expense recognized between the beginning and the end of that period.

No expense will be recognized for awards that do not ultimately vest, except for equity-settled transactions for which vesting is conditional upon a market or non-vesting condition. These are treated as vested irrespective of whether 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.

(21) Revenue Recognition

Revenue from Contracts with Customers

The Company recognizes revenue from contracts with customers by applying the following steps of IFRS 15:

(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 controls 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 EIR 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.

The summary of significant accounting policies applying in 2017 is as follows:

Revenue is recognized to the extent that it is probable that the economic benefits will flow to the Company and the revenue can be reliably measured. Revenue is measured at the fair value of the consideration received or receivable. The specific criteria described below must also be met before revenue is recognized.

Sales revenue

The Company manufactures semiconductors for creditworthy customers based on their design specifications, pursuant to manufacturing agreements and/or purchase orders at contractual prices. The Company ships wafers mainly under the trade term, Free Carrier (FCA), through which the title and risk of loss for the wafers are transferred to the customers upon delivery to carriers approved by the customers. Sales revenue is recognized at this point, having also fulfilled all of the following criteria pursuant to IAS 18, paragraph 14:

i. the significant risks and rewards of ownership of the goods have been transferred to the customer;
ii. neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold have been retained;
iii. the amount of revenue can be measured reliably;
iv. it is probable that the economic benefits associated with the transaction will flow to the entity; and
v. the costs incurred or to be incurred in respect of the transaction can be measured reliably.

Sales revenue is measured at the fair value of the consideration received or receivable, net of sales returns and discounts, which are estimated based on customer complaints, historical experience and other known factors. Sales returns and discounts are recorded in the same period in which sales are made.

Interest income

For financial assets measured at amortized cost (including held-to-maturity financial assets) and financial assets at fair value through profit or loss, interest income is recorded using the effective interest rate and recognized in profit or loss.

(22) 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.

(23) 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 estimation 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.

(1) The Fair Value of Level 3 Financial Instruments

Where the fair values of the level 3 financial assets and financial liabilities recorded on the balance sheet cannot be derived from active markets, they are determined by the application of an appropriate valuation method including the income approach and market approach. The valuation of these financial assets involves significant judgment in the preparation of cash flow forecasts, a selection of comparable companies or equity transaction prices, as well as the application of assumptions such as discount rates, discounts for lack of marketability, and 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(14).

(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(24) for more details on unrecognized deferred tax assets.

6. CONTENTS OF SIGNIFICANT ACCOUNTS

(1) Cash and Cash Equivalents

	As of December 31,	
	2018	2017
Cash on hand	$6,091	$4,360
Checking and savings accounts	25,021,265	21,699,357
Time deposits	49,139,549	50,711,803
Repurchase agreements collateralized by government and corporate bonds	9,494,834	9,259,052
Total	$83,661,739	$81,674,572

(2) Financial Assets at Fair Value through Profit or Loss

	As of December 31,	
	2018	2017 (Note)
Financial assets mandatorily measured at fair value through profit or loss		
Common stocks	$6,814,915	
Preferred stocks	2,998,228	
Funds	2,030,688	
Convertible Bonds	236,905	
Forward contracts	3,561	
Total	$12,084,297	
Designated financial assets at fair value through profit or loss		
Convertible bonds		$213,180
Financial assets held for trading		
Common stocks		434,630
Preferred stocks		228,508
Option		31,605
Subtotal		694,743
Total		$907,923
Current	$528,450	$716,918
Noncurrent	11,555,847	191,005
Total	$12,084,297	$907,923

On June 29, 2018, the Board of Directors of UMC resolved to exercise the call option of a joint venture agreement between FUJITSU SEMICONDUCTOR LIMITED (FSL) and UMC. The transaction was approved by the Taiwan authorities on September 26, 2018. Upon obtaining other relevant authority's approval of the investment application, the Company anticipates to invest NT$15.3 billion for acquiring remaining shares of MIE FUJITSU SEMICONDUCTOR LIMITED (MIFS), representing ownership interest of 84.1% and making MIFS a wholly-owned subsidiary of the Company. The change of the fair value for the call option is recorded in profit or loss.

Note: The Company adopted IFRS 9 on January 1, 2018. The Company elected not to restate prior periods in accordance with the transition provision in IFRS 9. Please refer to Note 6(6) and Note 6(7) for available-for-sale financial assets, non-current and financial assets measured at cost, non-current, respectively as of December 31, 2017.

(3) Accounts Receivable, Net

	As of December 31,	
	2018	2017
Accounts receivable	$23,784,141	$21,910,146
Less: allowance for sales returns and discounts	-	(994,151)
Less: loss allowance	(48,152)	(39,578)
Net	$23,735,989	$20,876,417

Aging analysis of accounts receivable, net:

	As of December 31, 2018	As of December 31, 2017
Neither past due nor impaired	$18,271,304	$15,496,207
Past due but not impaired:		
≤ 30 days	3,407,690	4,268,772
31 to 60 days	739,054	444,401
61 to 90 days	545,366	138,178
91 to 120 days	365,007	124,332
≥ 121 days	407,568	404,527
Subtotal	5,464,685	5,380,210
Total	$23,735,989	$20,876,417

Movement on individually evaluated loss allowance:

	For the years ended December 31, 2018	For the years ended December 31, 2017
Beginning balance	$39,578	$86,595
Net charge for the period	8,574	(47,017)
Ending balance	$48,152	$39,578

The collection periods for third party domestic sales and third party overseas sales were month-end 30~60 days and net 30~120 days, respectively.

After adopting IFRS 9, an impairment analysis is performed at each reporting date to measure ECLs of accounts receivable. For receivable past due within 60 days, including not past due, the Company estimates a provision rate to calculate ECLs. A provision rate is determined based on the Company's historical credit loss experience and customers' current financial condition, adjusted for forward-looking factors, such as customers' economic environment. For the receivable past due over 60 days, the Company applies the aforementioned provision rate and also individually assesses whether to recognize additional expected credit losses by considering customer's operating situation and debt-paying ability.

The impairment losses assessed individually as of December 31, 2017 primarily resulted from the financial difficulties of the counterparties, and the amounts recognized were the difference between the carrying amount of the accounts receivable and the present value of expected collectable amounts. The Company has no collateral with respect to those accounts receivable.

(4) Inventories, Net

	As of December 31, 2018	As of December 31, 2017
Raw materials	$3,766,056	$2,354,410
Supplies and spare parts	3,133,737	3,007,669
Work in process	10,034,488	11,492,450
Finished goods	1,268,838	1,402,971
Total	$18,203,119	$18,257,500

a. For the years ended December 31, 2018 and 2017, the Company recognized NT$123,795 million and NT$118,252 million, respectively, in operating cost, of which NT$1,698 million and NT$2,256 million were 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, 2018	As of December 31, 2017 (Note)
Equity instruments		
Common stocks	$11,401,451	
Preferred stocks	184,026	
Total	$11,585,477	

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. Dividends from equity instruments designated as fair value through other comprehensive income were NT$268 million for the year ended December 31, 2018. All the amounts are related to investments held at the end of the reporting period.

Note: The Company adopted IFRS 9 on January 1, 2018. The Company elected not to restate prior periods in accordance with the transition provision in IFRS 9. Please refer to Note 6(6) and Note 6(7) for available-for-sale financial assets, non-current and financial assets measured at cost, non-current , respectively as of December 31, 2017.

(6) Available-For-Sale Financial Assets, Non-Current

	As of December 31, 2017
Common stocks	$17,653,513
Preferred stocks	1,865,410
Funds	1,117,409
Total	$20,636,332

(7) Financial Assets Measured at Cost, Non-Current

	As of December 31, 2017
Common stocks	$473,134
Preferred stocks	1,657,388
Funds	87,950
Total	$2,218,472

Since these financial assets mostly consisted of non-publicly traded stocks and private venture funds, for which the fair values could not be reliably measured due to lack of sufficient financial information available, the Company measured these financial assets at cost.

(8) Investments Accounted For Under the Equity Method

a. Details of investments accounted for under the equity method are as follows:

	As of December 31,			
	2018		2017	
Investee companies	Amount	Percentage of ownership or voting rights	Amount	Percentage of ownership or voting rights
Listed companies				
CLIENTRON CORP.	$249,762	22.39	$265,327	22.39
FARADAY TECHNOLOGY CORP. (FARADAY) (Note A)	1,477,167	13.78	1,669,693	13.78
Unlisted companies				
WINAICO SOLAR PROJEKT 1 GMBH (Note B)	-	50.00	-	50.00
MTIC HOLDINGS PTE. LTD.	3,026	45.44	50,743	45.44
YUNG LI INVESTMENTS, INC.	2,213	45.16	42,173	45.16
WINAICO IMMOBILIEN GMBH (Note B)	-	44.78	-	44.78
UNITECH CAPITAL INC.	568,005	42.00	732,267	42.00
TRIKNIGHT CAPITAL CORPORATION	1,520,575	40.00	894,809	40.00
HSUN CHIEH INVESTMENT CO., LTD.	3,419,430	36.49	3,930,434	36.49
YANN YUAN INVESTMENT CO., LTD.	2,642,543	30.87	2,810,625	30.87
HSUN CHIEH CAPITAL CORP.	161,319	30.00	176,911	30.00
VSENSE CO., LTD.	31,544	26.89	78,294	28.63
UNITED LED CORPORATION HONG KONG LIMITED	167,953	25.14	216,707	25.14
TRANSLINK CAPITAL PARTNERS I, L.P. (Note C)	120,440	10.38	108,925	10.38
SHANDONG HUAHONG ENERGY INVEST CO., INC. (SHANDONG HUAHONG) (Note B)	-	-	-	50.00
CTC CAPITAL PARTNERS I, L.P.	-	-	32	31.40
Total	$10,363,977		$10,976,940	

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: SHANDONG HUAHONG, WINAICO SOLAR PROJEKT 1 GMBH and WINAICO IMMOBILIEN GMBH are joint ventures to the Company.

Note C: The Company follows international accounting practices in equity accounting for limited partnerships and uses the equity method to account for these investees.

The carrying amount of investments accounted for using the equity method for which there are published price quotations amounted to NT$1,727 million and NT$1,935 million, as of December 31, 2018 and 2017, respectively. The fair value of these investments were NT$1,621 million and NT$2,142 million, as of December 31, 2018 and 2017, 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$(751) million and NT$308 million for the years ended December 31, 2018 and 2017, respectively. Share of other comprehensive income (loss) of these associates and joint ventures amounted to NT$(225) million and NT$1,307 million for the years ended December 31, 2018 and 2017, respectively. The balances of investments accounted for under the equity method were NT$8,714 million and NT$8,998 million as of December 31, 2018 and 2017, respectively.

None of the aforementioned associates and joint ventures were pledged.

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, 2018 and 2017 were NT$18 million and NT$46 million, respectively, which were not included in the following table.

(i) The aggregate amount of the Company's share of its associates that are accounted for using the equity method was as follows:

	For the years ended December 31,	
	2018	2017
Income (loss) from continuing operations	$(667,701)	$196,714
Income (loss) from discontinued operations after income tax	-	80,248
Other comprehensive income (loss)	(476,326)	1,270,066
Total comprehensive income (loss)	$(1,144,027)	$1,547,028

(ii) The aggregate amount of the Company's share of its joint ventures that are accounted for using the equity method were both nil for the years ended December 31, 2018 and 2017.

c. One of UMC's associates, HSUN CHIEH INVESTMENT CO., LTD., held 441 million shares of UMC's stock as of December 31, 2018 and 2017. Another associate, YANN YUAN INVESTMENT CO., LTD., held 172 million shares of UMC's stock as of December 31, 2018 and 2017.

(9) Property, Plant and Equipment

	As of December 31,	
	2018	2017
Land	$1,314,402	$1,314,402
Buildings	19,841,058	21,112,807
Machinery and equipment	139,213,317	160,497,062
Transportation equipment	20,921	18,751
Furniture and fixtures	1,908,214	2,038,816
Leasehold improvement	3,869	4,353
Construction in progress and equipment awaiting inspection	10,544,814	20,755,490
Net	$172,846,595	$205,741,681

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, 2018	$1,314,402	$38,073,660	$826,268,919	$75,782	$7,675,798	$52,557	$20,761,439	$894,222,557
Additions	-	-	-	-	-	-	17,579,689	17,579,689
Disposals	-	(64,878)	(2,330,437)	(18,363)	(40,199)	-	-	(2,453,877)
Disposal of subsidiaries	-	-	(224,895)	-	(6,515)	(2,226)	-	(233,636)
Transfers and reclassifications	-	375,854	27,447,023	8,884	433,665	2,049	(27,693,591)	573,884
Exchange effect	-	(78,334)	2,527,895	52	(5,848)	1,069	(96,774)	2,348,060
As of December 31, 2018	$1,314,402	$38,306,302	$853,688,505	$66,355	$8,056,901	$53,449	$10,550,763	$912,036,677

	Land	Buildings	Machinery and equipment	Transportation equipment	Furniture and fixtures	Leasehold improvement	Construction in progress and equipment awaiting inspection	Total
As of January 1, 2017	$1,314,402	$37,042,323	$785,442,975	$78,314	$6,826,957	$69,245	$45,048,631	$875,822,847
Additions	-	-	-	-	-	-	31,140,639	31,140,639
Disposals	-	-	(3,200,814)	(5,774)	(40,115)	(14,785)	-	(3,261,488)
Transfers and reclassifications	-	1,479,439	55,836,583	4,268	924,252	1,534	(54,921,519)	3,324,557
Exchange effect	-	(448,102)	(11,809,825)	(1,026)	(35,296)	(3,437)	(506,312)	(12,803,998)
As of December 31, 2017	$1,314,402	$38,073,660	$826,268,919	$75,782	$7,675,798	$52,557	$20,761,439	$894,222,557

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, 2018	$-	$16,960,853	$665,771,857	$57,031	$5,636,982	$48,204	$5,949	$688,480,876
Depreciation	-	1,535,409	47,871,174	6,080	533,628	2,298	-	49,948,589
Disposals	-	(57,812)	(2,286,359)	(17,963)	(25,467)	-	-	(2,387,601)
Disposal of subsidiaries	-	-	(180,843)	-	(5,264)	(2,014)	-	(188,121)
Transfers and reclassifications	-	297	(3,164)	-	2,867	-	-	-
Exchange effect	-	26,497	3,302,523	286	5,941	1,092	-	3,336,339
As of December 31, 2018	$-	$18,465,244	$714,475,188	$45,434	$6,148,687	$49,580	$5,949	$739,190,082

	Land	Buildings	Machinery and equipment	Transportation equipment	Furniture and fixtures	Leasehold improvement	Construction in progress and equipment awaiting inspection	Total
As of January 1, 2017	$-	$15,612,462	$629,903,740	$56,356	$5,198,998	$61,938	$5,949	$650,839,443
Depreciation	-	1,492,606	48,961,521	5,639	502,971	2,383	-	50,965,120
Disposals	-	-	(3,172,320)	(5,774)	(39,914)	(12,742)	-	(3,230,750)
Transfers and reclassifications	-	-	(7,563)	1,587	5,976	-	-	-
Exchange effect	-	(144,215)	(9,913,521)	(777)	(31,049)	(3,375)	-	(10,092,937)
As of December 31 , 2017	$-	$16,960,853	$665,771,857	$57,031	$5,636,982	$48,204	$5,949	$688,480,876

Please refer to Note 8 for property, plant and equipment pledged as collateral.

(10) Intangible Assets

	As of December 31, 2018	As of December 31, 2017
Goodwill	$15,012	$15,188
Software	524,155	410,712
Patents and technology license fees	1,668,218	2,102,561
Others	784,419	1,259,048
Net	$2,991,804	$3,787,509

Cost:

	Goodwill	Software	Patents and technology license fees	Others	Total
As of January 1, 2018	$15,188	$1,080,726	$4,687,751	$3,565,705	$9,349,370
Additions	-	-	214,278	612,253	826,531
Disposals	-	(422,591)	(179,418)	(987,841)	(1,589,850)
Disposal of subsidiaries	(176)	-	-	-	(176)
Reclassifications	-	474,127	-	-	474,127
Exchange effect	-	(6,458)	(210,982)	(1)	(217,441)
As of December 31, 2018	$15,012	$1,125,804	$4,511,629	$3,190,116	$8,842,561

	Goodwill	Software	Patents and technology license fees	Others	Total
As of January 1, 2017	$15,188	$903,993	$4,534,340	$3,429,640	$8,883,161
Additions	-	3,566	38,928	1,145,110	1,187,604
Disposals	-	(95,505)	-	(1,009,051)	(1,104,556)
Reclassifications	-	278,650	-	-	278,650
Exchange effect	-	(9,978)	114,483	6	104,511
As of December 31, 2017	$15,188	$1,080,726	$4,687,751	$3,565,705	$9,349,370

Accumulated Amortization and Impairment:

	Goodwill	Software	Patents and technology license fees	Others	Total
As of January 1, 2018	$-	$670,014	$2,585,190	$2,306,657	$5,561,861
Amortization	-	357,624	468,296	1,086,882	1,912,802
Disposals	-	(422,591)	(179,418)	(987,841)	(1,589,850)
Exchange effect	-	(3,398)	(30,657)	(1)	(34,056)
As of December 31, 2018	$-	$601,649	$2,843,411	$2,405,697	$5,850,757

	Goodwill	Software	Patents and technology license fees	Others	Total
As of January 1, 2017	$-	$433,537	$2,143,372	$2,217,949	$4,794,858
Amortization	-	337,376	483,940	1,097,754	1,919,070
Disposals	-	(95,505)	-	(1,009,051)	(1,104,556)
Exchange effect	-	(5,394)	(42,122)	5	(47,511)
As of December 31, 2017	$-	$670,014	$2,585,190	$2,306,657	$5,561,861

The amortization amounts of intangible assets are as follows:

	For the years ended December 31, 2018	For the years ended December 31, 2017
Operating costs	$758,050	$799,215
Operating expenses	$1,154,752	$1,119,855

(11) Short-Term Loans

	As of December 31, 2018	As of December 31, 2017
Unsecured bank loans	$7,780,552	$19,159,298
Unsecured other loans	5,323,256	6,286,242
Total	$13,103,808	$25,445,540

	For the years ended December 31, 2018	For the years ended December 31, 2017
Interest rates applied	0.00%~4.55%	0.00%~4.35%

The Company's unused short-term lines of credit amounted to NT$77,658 million and NT$62,057 million as of December 31, 2018 and 2017, respectively.

(12) Bonds Payable

	As of December 31, 2018	As of December 31, 2017
Unsecured domestic bonds payable	$23,700,000	$31,200,000
Unsecured convertible bonds payable	18,196,332	18,196,332
Less: Discounts on bonds payable	(518,150)	(878,701)
Total	41,378,182	48,517,631
Less: Current portion	(2,499,235)	(24,841,770)
Net	$38,878,947	$23,675,861

A. UMC issued domestic unsecured corporate bonds. The terms and conditions of the bonds were as follows:

Term	Issuance date	Issued amount	Coupon rate	Repayment
Seven-year	In early June 2012	NT$2,500 million	1.63%	Interest will be paid annually and the principal will be repayable in June 2019 upon maturity.
Five-year	In mid-March 2013	NT$7,500 million	1.35%	Interest will be paid annually and the principal has been fully repaid in March 2018.
Seven-year	In mid-March 2013	NT$2,500 million	1.50%	Interest will be paid annually and the principal will be repayable in March 2020 upon maturity.
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. The terms and conditions of the bonds were as follows:

a. Issue Amount: US$600 million

b. Period: May 18, 2015 ~ May 18, 2020 (Maturity date)

c. 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.

d. 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. The conversion price was NT$14.8157 per share on December 31, 2018.

e. Redemption on the Maturity Date: On the maturity date, UMC will redeem the bonds at 98.76% of the principal amount unless, prior to such date:

i. UMC shall have redeemed the bonds at the option of UMC, or the bonds shall have been redeemed at option of the bondholder;

ii. The bondholders shall have exercised the conversion right before maturity; or

iii. The bonds shall have been redeemed or repurchased by UMC and cancelled.

In accordance with IAS 32, 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%.

(13) Long-Term Loans

a. Details of long-term loans as of December 31, 2018, and 2017 are as follows:

	As of December 31,		
Lenders	2018	2017	Redemption
Secured Long-Term Loan from Mega International Commercial Bank (1)	$-	$4,000	Effective November 21, 2013 to November 21, 2018. 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)	6,013	8,200	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 Taiwan Cooperative Bank (1)	-	16,853	Effective July 10, 2013 to July 10, 2018. 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)	-	10,276	Effective February 13, 2015 to February 13, 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 (3)	-	13,382	Effective April 28, 2015 to April 28, 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 (4)	3,006	4,724	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 (5)	83,243	95,135	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 (6)	-	1,476	Effective October 28, 2015 to April 28, 2020. Interest-only payment for the first half year. Principal is repaid in 17 quarterly payments with monthly interest payments.
Secured Long-Term Loan from Taiwan Cooperative Bank (7)	-	4,165	Effective November 20, 2015 to November 20, 2020. Interest-only payment for the first year. Principal is repaid in 17 quarterly payments with monthly interest payments.

Lenders	As of December 31, 2018	As of December 31, 2017	Redemption
Unsecured Long-Term Loan from Bank of Taiwan	$1,000,000	$300,000	Repayable quarterly from March 23, 2019 to December 23, 2021 with monthly interest payments.
Unsecured Syndicated Loans from Bank of Taiwan and 7 others	747,900	1,246,500	Repayable semi-annually from February 6, 2017 to February 6, 2020 with monthly interest payments.
Unsecured Long-Term Loan from Mega International Commercial Bank	-	474,356	Repayable quarterly from October 4, 2015 to October 4, 2018 with monthly interest payments.
Secured Syndicated Loans from China Development Bank and 6 others	28,987,895	29,989,811	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.
Subtotal	30,828,057	32,168,878	
Less: Administrative expenses from syndicated loans	(1,842)	(3,542)	
Less: Current portion	(2,622,161)	(2,522,052)	
Total	$28,204,054	$29,643,284	

	For the years ended December 31, 2018	For the years ended December 31, 2017
Interest rates applied	0.99%~5.56%	0.99%~4.66%

b. Please refer to Note 8 for property, plant and equipment pledged as collateral for long-term loans.

(14) Post-Employment Benefits

a. Defined contribution plan

The employee pension plan under the Labor Pension Act of the R.O.C. (the Act) 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$1,339 million and NT$1,256 million are contributed by the Company for the years ended December 31, 2018 and 2017, 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, 2018 and 2017, total pension expenses of NT$69 million and NT$80 million, respectively, were recognized by the Company.

ii. Movements in present value of defined benefit obligation and fair value of plan assets are as follows:

Movements in present value of defined benefit obligation during the year:

	For the years ended December 31, 2018	For the years ended December 31, 2017
Defined benefit obligation at beginning of year	$(5,671,058)	$(5,482,265)
Items recognized as profit or loss:		
Service cost	(24,477)	(24,130)
Interest cost	(61,247)	(76,761)
Subtotal	(85,724)	(100,891)
Remeasurements recognized in other comprehensive income (loss):		
Arising from changes in financial assumptions	(91,350)	(183,433)
Experience adjustments	(5,907)	13,233
Subtotal	(97,257)	(170,200)
Benefits paid	233,530	81,204
Other	-	1,094
Defined benefit obligation at end of year	$(5,620,509)	$(5,671,058)

Movements in fair value of plan assets during the year:

	For the years ended December 31,	
	2018	2017
Beginning balance of fair value of plan assets	$1,532,539	$1,513,371
Items recognized as profit or loss:		
Interest income on plan assets	16,552	21,187
Contribution by employer	95,577	93,466
Payment of benefit obligation	(233,530)	(81,204)
Remeasurements recognized in other comprehensive income (loss):		
Return on plan assets, excluding amounts included in interest income	42,197	(13,986)
Other	-	(295)
Fair value of plan assets at end of year	$1,453,335	$1,532,539

The actual returns on plan assets of the Company for the years ended December 31, 2018 and 2017 were NT$59 million and NT$7 million, respectively.

iii. The defined benefit plan recognized on the consolidated balance sheets are as follows:

	As of December 31,	
	2018	2017
Present value of the defined benefit obligation	$(5,620,509)	$(5,671,058)
Fair value of plan assets	1,453,335	1,532,539
Funded status	(4,167,174)	(4,138,519)
Net defined benefit liabilities, noncurrent recognized on the consolidated balance sheets	$(4,167,174)	$(4,138,519)

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,	
	2018	2017
Cash	17%	25%
Equity instruments	51%	43%
Debt instruments	24%	26%
Others	8%	6%

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.

v. The principal underlying actuarial assumptions are as follows:

	As of December 31,	
	2018	2017
Discount rate	0.91%	1.08%
Rate of future salary increase	3.50%	3.50%

vi. Expected future benefit payments are as follows:

Year	As of December 31, 2018
2019	$193,387
2020	211,679
2021	251,844
2022	304,317
2023	338,681
2024 and thereafter	4,846,688
Total	$6,146,596

The Company expects to make pension fund contribution of NT$96 million in 2019. The weighted-average durations of the defined benefit obligation are 10 years and 11 years as of December 31, 2018 and 2017, respectively.

vii. Sensitivity analysis:

	As of December 31, 2018			
	Discount rate		Rate of future salary increase	
	0.5% increase	0.5% decrease	0.5% increase	0.5% decrease
Decrease (increase) in defined benefit obligation	$262,909	$(281,037)	$(244,120)	$231,751

	As of December 31, 2017			
	Discount rate		Rate of future salary increase	
	0.5% increase	0.5% decrease	0.5% increase	0.5% decrease
Decrease (increase) in defined benefit obligation	$283,095	$(303,570)	$(266,069)	$251,815

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.

(15) Deferred Government Grants

	As of December 31,	
	2018	2017
Beginning balance	$14,595,546	$9,297,371
Arising during the period	7,129,770	6,755,920
Recorded in profit or loss:		
Other operating income	(3,885,722)	(1,469,616)
Exchange effect	(358,690)	11,871
Ending balance	$17,480,904	$14,595,546
Current	$3,832,124	$2,821,467
Noncurrent	13,648,780	11,774,079
Total	$17,480,904	$14,595,546

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.

(16) Refund Liabilities

	As of December 31, 2018
Refund liabilities	$1,213,476

Under IFRS 15, the Company's allowance for sales returns and discounts are presented as refund liabilities as a component of other current liabilities, different from its prior presentation as a contra-accounts to accounts receivable.

(17) Equity

a. Capital stock:

i. UMC had 26,000 million common shares authorized to be issued as of December 31, 2018 and 2017, of which 12,424 million shares, and 12,624 million shares were issued as of December 31, 2018 and 2017, respectively, each at a par value of NT$10.

ii. UMC had 143 million and 144 million ADSs, which were traded on the NYSE as of December 31, 2018 and 2017, respectively. The total number of common shares of UMC represented by all issued ADSs were 717 million shares and 721 million shares as of December 31, 2018 and 2017, respectively. One ADS represents five common shares.

iii. On August 27, 2018, UMC cancelled 200 million shares of treasury stock, which were repurchased during the period from March 12 to May 4, 2018, for the purpose of maintaining UMC's credit and stockholders' rights and interests.

b. Treasury stock:

i. UMC carried out treasury stock program and repurchased its shares from the centralized securities exchange market. The purpose for repurchase, and changes in treasury stock during the years ended December 31, 2018 and 2017 are as follows:

For the year ended December 31, 2018
(In thousands of shares)

Purpose	As of January 1, 2018	Increase	Decrease	As of December 31, 2018
For transfer to employees	400,000	-	200,000	200,000
To maintain UMC's credit and stockholders' rights and interests	-	480,000	200,000	280,000
	400,000	480,000	400,000	480,000

For the year ended December 31, 2017
(In thousands of shares)

Purpose	As of January 1, 2017	Increase	Decrease	As of December 31, 2017
For transfer to employees	400,000	-	-	400,000

ii. According to the Securities and Exchange Law of the R.O.C., the total shares of treasury stock shall not exceed 10% of 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, 2018 and 2017, 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. As of December 31, 2018 and 2017, UMC's subsidiary, FORTUNE VENTURE CAPITAL CORP., held 16 million shares of UMC's stock. The closing price on December 31, 2018 and 2017, were NT$11.25 and NT$14.20, respectively.

v. 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.

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, 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 and submitted to the stockholders' meeting for approval.

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 distribution of earnings for 2017 was approved by the stockholders' meeting held on June 20, 2018, while the distribution of earnings for 2018 was approved by the Board of Directors' meeting on March 6, 2019. The details of distribution are as follows:

	Appropriation of earnings (in thousand NT dollars)		Cash dividend per share (NT dollars)	
	2018	2017	2018	2017
Legal reserve	$707,299	$962,873		
Special reserve	14,513,940	-		
Cash dividends	6,916,105	8,557,023	$0.58	$0.70

The aforementioned 2017 distribution approved by stockholders' meeting was consistent with the resolutions of meeting of Board of Directors held on March 7, 2018.

The cash dividend per share for 2017 was adjusted to NT$0.71164307 per share according to the resolution of the Board of Directors' meeting on June 12, 2018. The adjustment was made for the decrease in outstanding common shares due to the share repurchase program.

The appropriation of 2018 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(20) for information on the employees' compensation and remuneration to directors.

d. Non-controlling interests:

	For the years ended December 31, 2018	2017
Beginning balance	$956,808	$2,161,729
Impact of retroactive applications	1,597	-
Adjusted balance at January 1	958,405	2,161,729
Attributable to non-controlling interests:		
Net loss	(4,429,938)	(2,997,469)
Other comprehensive income (loss)	(103,894)	(111,601)
The differences between the fair value of the consideration paid or received from acquiring or disposing subsidiaries and the carrying amounts of the subsidiaries	-	(1,174,564)
Changes in subsidiaries' ownership	(278,613)	175,413
Disposal of subsidiaries	(7,074)	-
Others	4,327,882	2,903,300
Ending balance	$466,768	$956,808

(18) Share-Based Payment

In order to attract, retain talents and reward the employees for their productivity and loyalty, the Company carried out a compensation plan to offer 200 million shares of treasury stock to employees in August 2018. 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 on the grant date, 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 on a straight-line basis over the period in which the services conditions are fulfilled, together with a corresponding increase in equity. As such, for the year ended December 31, 2018, total compensation cost of NT$696 million was recognized by the Company.

(19) Operating Revenues

a. Disaggregation of revenue

i. By operating segments

For the year ended December 31, 2018	Wafer Fabrication	New Business	Subtotal	Adjustment and Elimination	Consolidated
Revenue from contracts with customers	$151,023,932	$247,929	$151,271,861	$(19,290)	$151,252,571
The timing of revenue recognition:					
At a point in time	$146,247,350	$247,929	$146,495,279	$(19,290)	$146,475,989
Over time	4,776,582	-	4,776,582	-	4,776,582
Total	$151,023,932	$247,929	$151,271,861	$(19,290)	$151,252,571

ii. Operating Revenues

	For the year ended December 31, 2017
Net sales	
Sale of goods	$142,957,544
Other operating revenues	
Royalty	6,817
Mask tooling	3,334,844
Others	2,985,501
Net operating revenues	$149,284,706

iii. By geography

	For the year ended December 31, 2018							
	Taiwan	Singapore	China (includes Hong Kong)	Japan	USA	Europe	Others	Total
Revenue from contracts with customers	$55,092,681	$24,820,196	$18,504,881	$5,896,313	$23,555,105	$12,527,894	$10,855,501	$151,252,571
The timing of revenue recognition:								
At a point in time	$54,963,771	$24,791,908	$14,889,672	$5,889,277	$23,536,756	$11,551,052	$10,853,553	$146,475,989
Over time	128,910	28,288	3,615,209	7,036	18,349	976,842	1,948	4,776,582
Total	$55,092,681	$24,820,196	$18,504,881	$5,896,313	$23,555,105	$12,527,894	$10,855,501	$151,252,571

	For the year ended December 31, 2017
Taiwan	$48,952,219
Singapore	30,798,270
China (includes Hong Kong)	18,971,866
Japan	4,694,277
USA	18,208,227
Europe	14,329,730
Others	13,330,117
Total	$149,284,706

Note A: The Company adopted IFRS 15 on January 1, 2018. The Company elected not to restate prior periods in accordance with the transition provision in IFRS 15.

Note B: The geographic breakdown of the Company's operating revenues was based on the location of the Company's customers.

b. Contract balances

i. Contract assets, current

	As of		
	December 31, 2018	January 1, 2018	Differences
Sales of goods and services	$486,184	$129,042	$357,142
Less: Loss allowance	(393,974)	-	(393,974)
Net	$92,210	$129,042	$(36,832)

The significant increase in gross amount of contract assets in 2018 is the result of the increase in joint technology development services during the year.

The loss allowance was assessed by the company primarily at an amount equal to lifetime expected credit losses for the year ended December 31, 2018. The loss allowance is mainly resulted from the indictment filed by the United States Department of Justice (DOJ) against UMC, which is related to the joint technology development agreement. Please refer to Note 9(8).

ii. Contract liabilities, current

	As of		
	December 31, 2018	January 1, 2018	Differences
Sales of goods and services	$932,371	$3,951,414	$(3,019,043)

Contract liabilities are prepayments from customers for wafer sales and joint technology development services. The outstanding balances of this account decreased in 2018 due to the Company continued to provide services and recognized revenue during the year.

The Company recognized NT$3,815 million in revenues from the current contract liabilities balance at the beginning of the period as performance obligations were satisfied during the year.

c. The Company's transaction price allocated to unsatisfied performance obligations amounted to NT$3,148 million as of December 31, 2018. 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. The estimate of the transaction price does not include any estimated amounts of variable consideration that are constrained.

d. Asset recognized from the cost to fulfill a contract with customer
As of December 31, 2018, the Company recognized the cost to fulfill engineering and service contracts that are eligible for capitalization as assets which amounted to NT$567 million and accounted for as other current assets. Subsequently, the Company will expense to operating costs from the cost to fulfill a contract when the related obligations are satisfied.

(20) Operating Costs and Expenses

The Company's employee benefit, depreciation and amortization expenses are summarized as follows:

	For the years ended December 31,					
	2018			2017		
	Operating costs	Operating expenses	Total	Operating costs	Operating expenses	Total
Employee benefit expenses						
Salaries	$17,694,175	$7,780,063	$25,474,238	$16,676,560	$7,045,487	$23,722,047
Labor and health insurance	882,671	376,556	1,259,227	878,576	376,523	1,255,099
Pension	1,065,176	342,565	1,407,741	1,008,121	327,454	1,335,575
Other employee benefit expenses	289,395	111,734	401,129	259,701	118,422	378,123
Depreciation	47,086,993	2,689,314	49,776,307	47,820,812	3,003,855	50,824,667
Amortization	880,967	1,219,163	2,100,130	911,563	1,222,163	2,133,726

According to UMC's Articles of Incorporation, the employees' compensation and remuneration to directors shall be distributed in the following order:

UMC shall allocate no less than 5% of profit as employees' compensation and no more than 0.1% of profit as remuneration to directors 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 remuneration 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' compensation and remuneration to directors and report to the stockholders' meeting for such distribution.

The Company estimates the amounts of the employees' compensation and remuneration to directors and recognizes them in the profit or loss during the periods when earned for the years ended December 31, 2018 and 2017. The Board of Directors estimated 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' compensation and remuneration to directors for 2017 were reported to the stockholders' meeting on June 12, 2018, while the distributions of employees' compensation and remuneration to directors for 2018 were approved through the Board of Directors' meeting on March 6, 2019. The details of distribution are as follows:

	2018	2017
Employees' compensation – Cash	$1,400,835	$1,032,324
Remuneration to directors	7,624	11,452

The aforementioned 2017 employees' compensation and remuneration to directors reported during the stockholders' meeting were consistent with the resolutions of meeting of Board of Directors held on March 7, 2018.

Information relevant to the aforementioned employees' compensation and remuneration to directors can be obtained from the "Market Observation Post System" on the website of the TWSE.

(21) Net Other Operating Income and Expenses

	For the years ended December 31,	
	2018	2017
Net rental loss from property	$(182,488)	$(178,192)
Gain on disposal of property, plant and equipment	136,743	82,397
Government grants	5,220,746	1,710,176
Others	(58,117)	39,314
Total	$5,116,884	$1,653,695

(22) Non-Operating Income and Expenses

a. Other gains and losses

	For the years ended December 31,	
	2018	2017
Gain (loss) on valuation of financial assets and liabilities at fair value through profit or loss	$(1,167,735)	$598,270
Impairment loss		
Investments accounted for under the equity method	(46,225)	-
Available-for-sale financial assets, noncurrent	-	(664,948)
Financial assets measured at cost, noncurrent	-	(285,387)
Gain (loss) on disposal of investments	(19,286)	1,276,956
Others	104,956	76,788
Total	$(1,128,290)	$1,001,679

b. Finance costs

	For the years ended December 31, 2018	2017
Interest expenses		
Bonds payable	$710,663	$763,124
Bank loans	1,782,544	1,563,590
Others	275,465	80,158
Financial expenses	82,553	88,290
Total	$2,851,225	$2,495,162

(23) Components of Other Comprehensive Income (Loss)

For the year ended December 31, 2018	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	$(55,060)	$-	$(55,060)	$32,647	$(22,413)
Unrealized gains or losses on financial assets at fair value through other comprehensive income	1,454,018	-	1,454,018	44,526	1,498,544
Gains or losses on hedging instruments which will not be reclassified subsequently to profit or loss	(2,572)	-	(2,572)	514	(2,058)
Share of other comprehensive income (loss) of associates and joint ventures which will not be reclassified subsequently to profit or loss	(475,139)	-	(475,139)	34,697	(440,442)
Items that may be reclassified subsequently to profit or loss:					
Exchange differences on translation of foreign operations	$(47,417)	$408	$(47,009)	$(18,884)	$(65,893)
Share of other comprehensive income (loss) of associates and joint ventures which may be reclassified subsequently to profit or loss	(11,045)	(12,897)	(23,942)	6,148	(17,794)
Total other comprehensive income (loss)	$862,785	$(12,489)	$850,296	$99,648	$949,944

For the year ended December 31, 2017	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	$(184,186)	$-	$(184,186)	$31,311	$(152,875)
Share of other comprehensive income (loss) of associates and joint ventures which will not be reclassified subsequently to profit or loss	1,221	-	1,221	-	1,221
Items that may be reclassified subsequently to profit or loss:					
Exchange differences on translation of foreign operations	(5,975,203)	-	(5,975,203)	48,274	(5,926,929)
Unrealized gain (loss) on available-for-sale financial assets	1,224,344	(642,905)	581,439	147,858	729,297
Share of other comprehensive income (loss) of associates and joint ventures which may be reclassified subsequently to profit or loss	1,247,881	102,302	1,350,183	(35,252)	1,314,931
Total other comprehensive income (loss)	$(3,685,943)	$(540,603)	$(4,226,546)	$192,191	$(4,034,355)

(24) Income Tax

a. The major components of income tax expense for the years ended December 31, 2018 and 2017 were as follows:

i. Income tax expense recorded in profit or loss

	For the years ended December 31, 2018	For the years ended December 31, 2017
Current income tax expense (benefit):		
Current income tax charge	$584,419	$2,641,610
Adjustments in respect of current income tax of prior periods	(1,111,893)	(364,951)
Deferred income tax expense (benefit):		
Deferred income tax related to origination and reversal of temporary differences	1,228,554	(1,033,072)
Deferred income tax related to recognition and derecognition of tax losses and unused tax credits	(3,411,703)	(2,016,726)
Deferred income tax related to changes in tax rates	(848,223)	12,477
Adjustment of prior year's deferred income tax	(2,744)	9,233
Deferred income tax arising from write-down or reversal of write-down of deferred tax assets	3,102,937	1,918,586
Income tax (benefit) expense recorded in profit or loss	$(458,653)	$1,167,157

ii. Income tax related to components of other comprehensive income (loss)

Items that will not be reclassified subsequently to profit or loss:

	For the years ended December 31, 2018	For the years ended December 31, 2017
Remeasurements of defined benefit pension plans	$11,012	$31,311
Unrealized gains or losses on financial assets at fair value through other comprehensive income	31,998	-
Gains or losses on hedging instruments which will not be reclassified subsequently to profit or loss	514	-
Share of other comprehensive income (loss) of associates and joint ventures which will not be reclassified subsequently to profit or loss	39,742	-
Deferred income tax related to changes in tax rates	29,118	-
Income tax related to items that will not be reclassified subsequently to profit or loss	$112,384	$31,311

Items that may be reclassified subsequently to profit or loss:

	For the years ended December 31, 2018	For the years ended December 31, 2017
Exchange differences on translation of foreign operations	$(21,672)	$48,274
Unrealized loss (gain) on available-for-sale financial assets	-	147,858
Share of other comprehensive income (loss) of associates and joint ventures which may be reclassified subsequently to profit or loss	1,701	(35,252)
Deferred income tax related to changes in tax rates	7,235	-
Income tax related to items that may be reclassified subsequently	$(12,736)	$160,880

iii. Deferred income tax charged directly to equity

	For the years ended December 31, 2018	For the years ended December 31, 2017
Adjustments of changes in net assets of associates and joint ventures accounted for using equity method	$-	$(2)
Deferred income tax related to changes in tax rates	(56,759)	-
Total	$(56,759)	$(2)

b. A reconciliation between income tax expense and income before tax at UMC's applicable tax rate was as follows:

	For the years ended December 31, 2018	For the years ended December 31, 2017
Income before tax	$2,184,399	$7,798,422
At UMC's statutory income tax rate	436,880	1,325,732
Adjustments in respect of current income tax of prior periods	(1,111,893)	(364,951)
Net changes in loss carry-forward and investment tax credits	2,239,058	319,551
Adjustment of deferred tax assets/liabilities for write-downs/reversals and different jurisdictional tax rates	26,122	330,228

	For the years ended December 31, 2018	2017
Tax effect of non-taxable income and non-deductible expenses:		
Tax exempt income	$(451,589)	$(1,549,018)
Investment gain	(835,669)	(298,786)
Dividend income	(112,810)	(83,154)
Others	140,278	259,590
Basic tax	-	33,207
Deferred income tax related to changes in tax rates	(848,223)	12,477
Effect of different tax rates applicable to UMC and its subsidiaries	(118,404)	(21,615)
Taxes withheld in other jurisdictions	48,291	868,106
Others	129,306	335,790
Income tax expense recorded in profit or loss	$(458,653)	$1,167,157

c. Significant components of deferred income tax assets and liabilities were as follows:

	As of December 31, 2018	2017
Deferred income tax assets		
Depreciation	$1,930,388	$2,064,726
Loss carry-forward	502,331	425,247
Pension	825,792	697,478
Refund liabilities	232,854	-
Allowance for sales returns and discounts	-	171,213
Allowance for inventory valuation losses	416,270	365,658
Investment loss	341,096	217,799
Unrealized profit on intercompany sales	1,703,942	1,626,072
Investment tax credits	336,869	-
Deferred revenue	-	452,907
Others	98,367	50,482
Total deferred income tax assets	6,387,909	6,071,582
Deferred income tax liabilities		
Unrealized exchange gain	(535,595)	(348,198)
Depreciation	(440,524)	(306,472)
Investment gain	(499,506)	(444,422)
Convertible bond option	(139,693)	(176,361)
Amortizable assets	(342,607)	(353,477)
Others	(7,768)	(2,775)
Total deferred income tax liabilities	(1,965,693)	(1,631,705)
Net deferred income tax assets	$4,422,216	$4,439,877

d. Movement of deferred tax

	For the years ended December 31, 2018	2017
Balance at January 1	$4,439,877	$3,138,897
Impact of retroactive applications	17,843	-
Adjusted balance at January 1	4,457,720	3,138,897
Amounts recognized in profit or loss during the period	(68,821)	1,109,502
Amounts recognized in other comprehensive income	99,648	192,191
Amounts recognized in equity	(56,759)	(2)
Exchange adjustments	(9,572)	(711)
Balance at December 31	$4,422,216	$4,439,877

e. The Company is subject to taxation in Taiwan and other foreign jurisdictions. As of December 31, 2018, income tax returns of UMC and its subsidiaries in Taiwan have been examined by the tax authorities through 2014, while in other foreign jurisdictions, relevant tax authorities have completed the examination through 2010.

f. UMC was granted income tax exemption for several periods with respect to income derived from the expansion of operations. The income tax exemption will expire on December 31, 2020.

g. The information of the unused tax loss carry-forward for which no deferred income tax assets have been recognized was as follows:

	As of December 31, 2018	2017
Expiry period		
1~5 years	$27,072,604	$14,881,800
6~10 years	10,799,310	15,055,903
more than 10 years	5,043	5,105
Total	$37,876,957	$29,942,808

h. As of December 31, 2018 and 2017, deductible temporary differences for which no deferred income tax assets have been recognized amounted to NT$5,964 million and NT$7,252 million, respectively.

i. UMC's earnings generated in and prior to the year ended December 31, 1997 have been fully appropriated.

j. As of December 31, 2018 and 2017, the taxable temporary differences of unrecognized deferred tax liabilities associated with investments in subsidiaries amounted to NT$11,036 million and NT$9,289 million, respectively.

k. According to the amendments to the R.O.C. Income Tax Act, effective from 2018, the corporate income tax rate is raised from 17% to 20%, and the 10% undistributed earnings tax is lowered to 5%.

(25) Earnings Per Share

a. Earnings per share-basic

Basic earnings per share amounts are calculated by dividing the net income for the year attributable to ordinary equity holders of the parent company by the weighted-average number of ordinary shares outstanding during the year. The reciprocal stockholdings held by subsidiaries are deducted from the computation of weighted-average number of shares outstanding.

	For the years ended December 31, 2018	2017
Net income attributable to the parent company	$7,072,990	$9,628,734
Weighted-average number of ordinary shares for basic earnings per share (thousand shares)	12,103,880	12,208,240
Earnings per share-basic (NTD)	$0.58	$0.79

b. Earnings per share-diluted

Diluted earnings per share is calculated by taking basic earnings per share plus the effect of additional common shares that would have been outstanding if the dilutive share equivalents had been issued. The net income attributable to ordinary equity holders of the parent company would be also adjusted for the interest and other income or expenses derived from any underlying dilutive share equivalents, such as convertible bonds. For employees' compensation that may be distributed in shares, the number of shares to be distributed is taken into consideration assuming the distribution will be made entirely in shares when calculating diluted earnings per share.

	For the years ended December 31, 2018	2017
Net income attributable to the parent company	$7,072,990	$9,628,734
Effect of dilution		
Unsecured convertible bonds	283,349	288,091
Income attributable to stockholders of the parent	$7,356,339	$9,916,825
Weighted-average number of common stocks for basic earnings per share (thousand shares)	12,103,880	12,208,240
Effect of dilution		
Employees' compensation	137,511	83,981
Unsecured convertible bonds	1,243,599	1,193,935
Weighted-average number of common stocks after dilution (thousand shares)	13,484,990	13,486,156
Earnings per share-diluted (NTD)	$0.55	$0.74

(26) Reconciliation of Liabilities Arising from Financing Activities

For the year ended December 31, 2018:

Items	As of January 1, 2018	Cash Flows	Non-cash changes: Foreign exchange	Non-cash changes: Others (Note)	As of December 31, 2018
Short-term loans	$25,445,540	$(12,288,248)	$(292,466)	$238,982	$13,103,808
Long-term loans (current portion included)	32,165,336	(1,880,197)	556,777	(15,701)	30,826,215
Bonds payable (current portion included)	48,517,631	(7,500,000)	-	360,551	41,378,182
Guarantee deposits (current portion included)	564,576	88,131	13,086	-	665,793
Other financial liabilities-noncurrent	20,486,119	-	(456,551)	380,787	20,410,355

Note: Other non-cash changes mainly consisted of discount amortization measured by the EIR method.

For the year ended December 31, 2017: Not applicable.

(27) Deconsolidation of Subsidiaries

UNISTARS CORP. (UNISTARS)

As UMC's subsidiary disposed of all of its shares of UNISTARS in December 2018, the Company lost control of UNISTARS, derecognizing the relevant assets and liabilities of UNISTARS at the date when the control is lost.

a. Derecognized assets and liabilities mainly consisted of:

Assets	
Cash and cash equivalents	$14,430
Notes and accounts receivable	18,239
Inventories	46,717
Property, plant and equipment	45,515
Others	2,365
	127,266
Liabilities	
Short-term loans	(34,313)
Payables	(29,309)
Current portion of long-term liabilities	(11,899)
Long-term loans	(5,502)
Others	(2,872)
	(83,895)
Net assets of the subsidiary deconsolidated	$43,371

b. Consideration received and loss recognized from the transaction:

Cash received	$4,617
Less: Net assets of the subsidiary deconsolidated	(43,371)
Add: Non-controlling interests	7,074
Less: Goodwill	(176)
Loss on disposal of subsidiary	$(31,856)

Loss on disposal of subsidiary for the year ended December 31, 2018 was recognized as other gains and losses in the consolidated statement of comprehensive income.

c. Analysis of net cash outflow arising from deconsolidation of the subsidiary:

Cash received	$4,617
Net cash of subsidiary derecognized	(14,430)
Net cash outflow from deconsolidation	$(9,813)

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
JINING SUNRICH SOLARENERGY CORPORATION	Joint venture's subsidiary
SILICON INTEGRATED SYSTEMS CORP.	The Company's director
SUBTRON TECHNOLOGY CO., LTD.	Subsidiary's supervisor
PHOTRONICS DNP MASK CORPORATION	Other related parties
TRIKNIGHT CAPITAL CORPORATION	Associate
CHUAN-FANG ZHUAN	Subsidiary's director

(2) Significant related party transactions

a. Operating transactions

Operating revenues

	For the years ended December 31,	
	2018	2017
Associates	$1,291,398	$1,357,720
Joint ventures	4,277	12,465
Others	27,881	30,417
Total	$1,323,556	$1,400,602

Accounts receivable, net

	As of December 31,	
	2018	2017
Associates	$134,646	$84,839
Joint ventures	-	1,051
Others	4,266	7,908
Total	138,912	93,798
Less: Allowance for sales returns and discounts	-	(2,733)
Net	$138,912	$91,065

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, 2018
Associates	$1,287
Others	71
Total	$1,358

b. Significant asset transactions

Acquisition of intangible assets

	Purchase price For the years ended December 31,	
	2018	2017
Associates	$200,610	$322,808

Acquisition of investments accounted for under the equity method

	Trading Volume (In thousands of shares)	Transaction underlying	Purchase price For the year ended December 31, 2018
Associates	84,000	Stock	$840,000

For the year ended December 31, 2017: None.

Disposal of subsidiary

			For the year ended December 31, 2018	
	Trading Volume (In thousands of shares)	Transaction underlying	Proceeds	Disposal (loss) gain
Others	46,168	UNISTARS	$4,617	$(31,856)

For the year ended December 31, 2017: None.

Disposal of financial assets

For the year ended December 31, 2018: None.

			For the year ended December 31, 2017	
	Trading Volume (In thousands of shares)	Transaction underlying	Proceeds	Disposal (loss) gain
Others	6,489	ASIA PACIFIC MICROSYSTEMS , INC.	$50,745	$(13,753)

c. Others

Mask expenditure

	For the years ended December 31,	
	2018	2017
Others	$1,750,088	$944,710

Other payables of mask expenditure

	As of December 31,	
	2018	2017
Others	$571,036	$580,789

d. Key management personnel compensation

	For the years ended December 31,	
	2018	2017
Short-term employee benefits	$387,294	$271,554
Post-employment benefits	4,660	3,478
Termination benefits	-	6,957
Share-based payment	293,857	68
Others	435	294
Total	$686,246	$282,351

8. ASSETS PLEDGED AS COLLATERAL

As of December 31, 2018 and 2017

	Amount As of December 31, 2018	Amount As of December 31, 2017	Party to which asset(s) was pledged	Purpose of pledge
Refundable Deposits (Bank deposit and Time deposit)	$961,198	$972,827	Customs	Customs duty guarantee
Refundable Deposits (Time deposit)	237,358	246,008	Science Park Administration	Collateral for land lease
Refundable Deposits (Time deposit)	19,579	20,991	Science Park Administration	Collateral for dormitory lease
Refundable Deposits (Time deposit)	-	800	Science Park Administration	Industry-university cooperative research project performance guarantees
Refundable Deposits (Time deposit)	37,084	37,084	Liquefied Natural Gas Business Division, CPC Corporation, Taiwan	Energy resources guarantee
Refundable Deposits (Time deposit)	1,000,000	-	Bank of China	Bank performance guarantee
Buildings	5,823,938	6,083,976	Taiwan Cooperative Bank and Secured Syndicated Loans from China Development Bank and 6 others	Collateral for long-term loans
Machinery and equipment	25,762,086	32,428,768	Taiwan Cooperative Bank, Mega International Commercial Bank and Secured Syndicated Loans from China Development Bank and 6 others	Collateral for long-term loans
Other noncurrent assets	309,108	323,001	Secured Syndicated Loans from China Development Bank and 6 others	Collateral for long-term loans
Total	$34,150,351	$40,113,455		

9. SIGNIFICANT CONTINGENCIES AND UNRECOGNIZED CONTRACT COMMITMENTS

(1) As of December 31, 2018, amounts available under unused letters of credit for importing machinery and equipment was NT$0.4 billion.

(2) As of December 31, 2018, the Company entrust financial institutes to open performance guarantee, mainly related to the litigations and customs tax guarantee, amounted 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$12.1 billion. As of December 31, 2018, the portion of royalties and development fees not yet recognized was NT$1.2 billion.

(4) The Company entered into several construction contracts for the expansion of its operations. As of December 31, 2018, these construction contracts amounted to approximately NT$3.1 billion and the portion of the contracts not yet recognized was approximately NT$0.9 billion.

(5) The Company entered into several operating lease contracts for land and office. These renewable operating leases will expire in various years through 2038. Future minimum lease payments under those leases are as follows:

Year	As of December 31, 2018
2019	$600,876
2020	618,194
2021	608,434
2022	609,325
2023	578,203
2024 and thereafter	4,393,337
Total	$7,408,369

(6) 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. As of December 31, 2018, the Company obtained R.O.C. government authority's approval for the investment and invested RMB 8.3 billion in USC, representing ownership interest of 65.22%. 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 USC at their original investment cost plus interest, beginning from the seventh year 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.

(7) On July 1, 2016, INTERNATIONAL BUSINESS MACHINES CORPORATION (IBM) filed a complaint in the United States District Court for the Southern District of New York accusing that UMC did not pay the technology license fees in accordance with the technology license agreement and claimed US$10 million with interest of 12% per annum. UMC is appealing an unfavorable judgment issued on September 15, 2017 by the United States District Court of Southern District of New York for the subject matter. The appeal is still on trial. Since the final judgement has not been issued, UMC cannot make reliable estimate of the financial effect of the litigation.

(8) In 2017, the Taichung District Prosecutors Office requested the local court to impose a fine to UMC based on the allegation of misappropriation of trade secret of MICRON TECHNOLOGY INC. ("MICRON"). In addition, MICRON filed a civil lawsuit against UMC with the District Court of Northern District of California for the similar cause. UMC has appointed the attorneys to prepare answers against these charges. On January 12, 2018, UMC filed counterclaims against MICRON with the Fuzhou Intermediate People's Court against, among others, MICRON (XI'AN) CO., LTD. and MICRON (SHANGHAI) TRADING CO., LTD. for patent infringement. On July 3, 2018, the Fuzhou Intermediate People's Court issued a ruling against the aforementioned two defendant companies, ruling that the two defendants must immediately cease to manufacture, sell, and import products that infringe the patent rights of UMC. The lawsuit filed by UMC is still on trial. On November 1, 2018, the United States Department of Justice (DOJ) indicted 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, 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. The indictment and civil complaint are still on trial. UMC has appointed attorneys to prepare answers against these charges. Given both litigations are still in the preliminary stages, UMC cannot assess the legal proceeding and probable outcome or impact.

10. SIGNIFICANT DISASTER LOSS

None.

11. SIGNIFICANT SUBSEQUENT EVENTS

None.

12. OTHERS

(1) Categories of financial instruments

	As of December 31,	
Financial Assets	2018	2017
Non-derivative financial instruments		
Financial assets at fair value through profit or loss	$12,080,736	$876,318
Financial assets at fair value through other comprehensive income	11,585,477	-
Available-for-sale financial assets	-	20,636,332
Financial assets measured at cost	-	2,218,472
Financial assets measured at amortized cost		
Cash and cash equivalents (excludes cash on hand)	83,655,648	81,670,212
Receivables	24,583,451	22,149,072
Refundable deposits	2,757,399	1,903,041
Other financial assets	2,320,037	2,645,003
Subtotal	113,316,535	108,367,328
Derivative financial instruments		
Financial assets at fair value through profit or loss	3,561	31,605
Total	$136,986,309	$132,130,055

	As of December 31,	
Financial Liabilities	2018	2017
Non-derivative financial instruments		
Financial liabilities measured at amortized cost		
Short-term loans	$13,103,808	$25,445,540
Payables	23,465,536	24,274,413
Guarantee deposits (current portion included)	665,793	564,576
Bonds payable (current portion included)	41,378,182	48,517,631
Long-term loans (current portion included)	30,826,215	32,165,336
Other financial liabilities	20,523,099	20,486,119
Total	$129,962,633	$151,453,615

(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.

The company designated certain forward exchange contracts, amounting to JPY 23 billion, to partially hedge foreign currency exchange rate risks associated with the highly probable purchase of the remaining outstanding shares of MIFS in JPY. The Company discontinued hedge accounting when the hedging instrument expired prior to December 31, 2018. The cash flow hedge reserve in other components of equity amounted to NT$(2) million as of December 31, 2018.

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, 2018 and 2017 decreases/increases by NT$1,367 million and NT$1,330 million, respectively. When RMB strengthens/weakens against USD by 10%, the profit for the years ended December 31, 2018 and 2017 increases/decreases by NT$2,624 million and NT$4,011 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(12) and 6(13) 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, 2018 and 2017 to decrease/increase by NT$44 million and NT$58 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, 2018 and 2017 by NT$171 million and NT$33 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 year ended December 31, 2018 by NT$408 million. A change of 5% in the price of the aforementioned available-for-sale financial instruments of listed companies could increase/decrease the Company's other comprehensive income for the year ended December 31, 2017 by NT$525 million.

(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, which consequently minimizes the Company's exposure to bad debts.

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, 2018 and 2017, accounts receivable from the top ten customers represent 54% and 54% 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 and bonds.

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, 2018				
	Less than 1 year	2 to 3 years	4 to 5 years	> 5 years	Total
Non-derivative financial liabilities					
Short-term loans	$13,171,811	$-	$-	$-	$13,171,811
Payables	22,994,059	199,788	-	-	23,193,847
Guarantee deposits	52,890	154,787	15,385	442,731	665,793
Bonds payable	3,000,855	23,187,913	8,484,393	8,563,021	43,236,182
Long-term loans	4,036,260	10,997,829	17,209,849	4,765,719	37,009,657
Other financial liabilities	112,744	-	17,477,984	4,369,730	21,960,458
Total	$43,368,619	$34,540,317	$43,187,611	$18,141,201	$139,237,748

	As of December 31, 2017				
	Less than 1 year	2 to 3 years	4 to 5 years	> 5 years	Total
Non-derivative financial liabilities					
Short-term loans	$25,622,430	$-	$-	$-	$25,622,430
Payables	23,807,378	-	-	104,755	23,912,133
Guarantee deposits	95,085	14,071	29,876	425,544	564,576
Bonds payable	26,321,530	5,564,967	10,590,265	8,689,971	51,166,733
Long-term loans	3,855,962	8,728,249	13,397,515	13,450,444	39,432,170
Other financial liabilities	-	-	13,402,849	8,935,552	22,338,401
Total	$79,702,385	$14,307,287	$37,420,505	$31,606,266	$163,036,443

(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, 2018

Type	Notional Amount	Contract Period
Forward exchange contracts	Sell USD 28 million	December 10, 2018~January 7, 2019

As of December 31, 2017: 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, 2018			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Financial assets at fair value through profit or loss, current	$493,481	$34,969	$-	$528,450
Financial assets at fair value through profit or loss, noncurrent	3,612,243	44,597	7,899,007	11,555,847
Financial assets at fair value through other comprehensive income, noncurrent	8,166,277	-	3,419,200	11,585,477

	As of December 31, 2017			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Financial assets at fair value through profit or loss, current	$663,138	$22,175	$31,605	$716,918
Financial assets at fair value through profit or loss, noncurrent	174,760	16,245	-	191,005
Available-for-sale financial assets, noncurrent	10,959,194	-	9,677,138	20,636,332

Fair values of financial assets at fair value through profit or loss, financial assets at fair value through other comprehensive income and available-for-sale financial assets 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, 2018 and 2017, there were no significant transfers between Level 1 and Level 2 fair value measurements.

Reconciliations for fair value measurement in Level 3 fair value hierarchy were as follows:

	Financial assets at fair value through profit or loss					Financial assets at fair value through other comprehensive income (loss)		
	Option	Common stock	Preferred stock	Funds	Total	Common stock	Preferred stock	Total
As of January 1, 2018	$31,605	$3,832,537	$2,994,294	$1,183,940	$8,042,376	$3,350,694	$233,326	$3,584,020
Recognized in profit (loss)	(31,605)	(3,356)	(394,931)	69,827	(360,065)	-	-	-
Recognized in other comprehensive loss	-	-	-	-	-	(115,520)	(49,300)	(164,820)
Acquisition	-	140,338	630,626	577,347	1,348,311	-	-	-
Disposal	-	(468,337)	(310,025)	-	(778,362)	-	-	-
Return of capital	-	(22,954)	-	-	(22,954)	-	-	-
Transfer to Level 3	-	22,050	-	-	22,050	-	-	-
Transfer out of Level 3	-	(442,138)	-	-	(442,138)	-	-	-
Exchange effect	-	19,551	51,564	18,674	89,789	-	-	-
As of December 31, 2018	$-	$3,077,691	$2,971,528	$1,849,788	$7,899,007	$3,235,174	$184,026	$3,419,200

	Financial assets at fair value through profit or loss	Available-for-sale financial assets			
	Option	Common stock	Funds	Preferred stock	Total
As of January 1, 2017	$-	$7,687,752	$942,296	$1,203,589	$9,833,637
Recognized in profit (loss)	31,605	(240,037)	(64,515)	(14,364)	(318,916)
Recognized in other comprehensive (loss) income	-	(551,004)	26,269	(32,081)	(556,816)
Acquisition	-	170,457	266,992	429,627	867,076
Disposal	-	(244,970)	-	-	(244,970)
Return of Capital	-	-	(6,369)	-	(6,369)
Transfer to Level 3	-	87,830	-	342,832	430,662
Transfer out of Level 3	-	(181,637)	-	-	(181,637)
Exchange effect	-	(34,072)	(47,264)	(64,193)	(145,529)
As of December 31, 2017	$31,605	$6,694,319	$1,117,409	$1,865,410	$9,677,138

Recognized as part of profit (loss) above, the profit (loss) from financial assets still held by the Company as of December 31, 2018 and 2017 was NT$(203) million and NT$(286) million, respectively.

Recognized as part of other comprehensive income (loss) above, the income (loss) from financial assets still held by the Company as of December 31, 2018 and 2017 was NT$(165) million and NT$(530) million, respectively.

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 were as follow:

As of December 31, 2018

Category of equity securities	Valuation technique	Significant unobservable inputs	Quantitative information	Interrelationship between inputs and fair value	Sensitivity analysis of interrelationship between inputs and fair value
Unlisted stock	Market Approach	Discount for lack of marketability	15%~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 or loss and other comprehensive income (loss) for the year ended December 31, 2018 by NT$309 million and by NT$241 million, respectively.

As of December 31, 2017

Category of equity securities	Valuation technique	Significant unobservable inputs	Quantitative information	Interrelationship between inputs and fair value	Sensitivity analysis of interrelationship between inputs and fair value
Unlisted stock	Market Approach	Discount for lack of marketability	20%~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 other comprehensive income (loss) for the year ended December 31, 2017 by NT$401 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, 2018

		Fair value measurements during reporting period using			
Items	Fair value	Level 1	Level 2	Level 3	Carrying amount
Bonds payables (current portion included)	$41,714,368	$23,929,019	$17,785,349	$-	$41,378,182
Long-term loans (current portion included)	30,826,215	-	30,826,215	-	30,826,215

As of December 31, 2017

Items	Fair value	Fair value measurements during reporting period using: Level 1	Level 2	Level 3	Carrying amount
Bonds payables (current portion included)	$49,342,714	$31,422,772	$17,919,942	$-	$48,517,631
Long-term loans (current portion included)	32,165,336	-	32,165,336	-	32,165,336

(8) Significant financial assets and liabilities denominated in foreign currencies

	As of December 31, 2018			2017		
	Foreign Currency (thousand)	Exchange Rate	NTD (thousand)	Foreign Currency (thousand)	Exchange Rate	NTD (thousand)
Financial Assets						
Monetary items						
USD	$1,536,283	30.67	$47,117,775	$1,703,079	29.72	$50,609,425
JPY	19,954,240	0.2764	5,515,352	5,914,143	0.2627	1,553,244
EUR	2,669	35.01	93,450	2,818	35.27	99,394
SGD	34,325	22.41	769,217	29,696	22.22	659,865
RMB	4,089,229	4.45	18,184,800	2,499,747	4.55	11,368,839
Non-Monetary items						
USD	215,146	30.67	6,598,528	154,761	29.73	4,601,061
JPY	8,466,263	0.2764	2,340,075	9,150,629	0.2627	2,403,870
SGD	8,212	22.41	184,025	-	-	-
RMB	49,506	4.45	220,152	-	-	-
Financial Liabilities						
Monetary items						
USD	322,705	30.77	9,929,626	576,458	29.83	17,195,765
JPY	3,875,144	0.2805	1,086,978	3,252,323	0.2668	867,720
EUR	13,721	35.41	485,880	3,696	35.84	132,475
SGD	39,650	22.59	895,677	32,498	22.40	727,952
RMB	14,332,554	4.50	64,453,497	15,618,686	4.60	71,814,722
The exchange gain or loss from monetary financial assets and liabilities						
USD			635,992			(751,616)
JPY			39,116			44,587
EUR			8,133			1,816
SGD			4,473			15,703
RMB			(1,044,912)			2,255,067
Other			205			348

(9) Significant intercompany transactions among consolidated entities for years ended December 31, 2018 and 2017 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, 2018 and 2017 were as follows:

	As of December 31, 2018	2017
Total liabilities	$158,068,415	$180,061,578
Less: Cash and cash equivalents	(83,661,739)	(81,674,572)
Net debt	74,406,676	98,387,006
Total equity	206,536,491	214,037,584
Total capital	$280,943,167	$312,424,590
Debt to capital ratios	26.48%	31.49%

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, 2018: Please refer to Attachment 2.

b. Endorsement/Guarantee provided to others for the year ended December 31, 2018: Please refer to Attachment 3.

c. Securities held as of December 31, 2018 (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, 2018: 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, 2018: 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, 2018: 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, 2018: 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, 2018: Please refer to Attachment 9.

i. Names, locations and related information of investees as of December 31, 2018 (excluding investment in Mainland China): Please refer to Attachment 10.

j. Financial instruments and derivative transactions: Please refer to Note 12.

(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 11.

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 3, Attachment 5 and Attachment 8.

14. OPERATING SEGMENT INFORMATION

(1) The Company determined its operating segments based on business activities with discrete financial information regularly reported through the Company's internal reporting protocols to the Company's chief operating decision maker. The Company is organized into business units based on its products and services. As of December 31, 2018, the Company had the following segments: wafer fabrication and new business. The operating segment information was prepared according to the accounting policies described in Note 4. The primary operating activity of the wafer fabrication segment is the manufacture of chips to the design specifications of our customers by using our own proprietary processes and techniques. The Company maintains a diversified customer base across industries, including communication, consumer electronics, computer, memory and others, while continuing to focus on manufacturing for high growth, large volume applications, including networking, telecommunications, internet, multimedia, PCs and graphics. New business segment primarily includes researching, developing, manufacturing, and providing solar energy and new generation light-emitting diode (LED).

Reportable segment information for the years ended December 31, 2018 and 2017 were as follows:

	For the year ended December 31, 2018				
	Wafer Fabrication	New Business	Subtotal	Adjustment and Elimination	Consolidated
Net revenue from external customers	$151,023,932	$228,639	$151,252,571	$-	$151,252,571
Net revenue from sales among intersegments	-	19,290	19,290	(19,290)	-
Segment net income (loss), net of tax	2,688,331	(602,809)	2,085,522	557,530	2,643,052
Capital expenditure	19,589,770	305	19,590,075	-	19,590,075
Depreciation	49,777,242	171,347	49,948,589	-	49,948,589
Share of profit or loss of associates and joint ventures	(1,201,986)	(23,245)	(1,225,231)	557,530	(667,701)
Income tax expense (benefit)	(456,058)	(2,595)	(458,653)	-	(458,653)

	For the year ended December 31, 2017				
	Wafer Fabrication	New Business	Subtotal	Adjustment and Elimination	Consolidated
Net revenue from external customers	$148,939,836	$344,870	$149,284,706	$-	$149,284,706
Net revenue from sales among intersegments	-	13,600	13,600	(13,600)	-
Segment net income (loss), net of tax	6,728,620	(665,895)	6,062,725	568,540	6,631,265
Capital expenditure	44,229,488	6,788	44,236,276	-	44,236,276
Depreciation	50,737,240	227,880	50,965,120	-	50,965,120
Share of profit or loss of associates and joint ventures	(258,959)	(32,619)	(291,578)	568,540	276,962
Income tax expense (benefit)	1,167,154	3	1,167,157	-	1,167,157

	As of December 31, 2018				
	Wafer Fabrication	New Business	Subtotal	Adjustment and Elimination (Note)	Consolidated
Segment assets	$363,529,040	$1,263,368	$364,792,408	$(187,502)	$364,604,906
Segment liabilities	$157,000,054	$1,068,722	$158,068,776	$(361)	$158,068,415

	As of December 31, 2017				
	Wafer Fabrication	New Business	Subtotal	Adjustment and Elimination (Note)	Consolidated
Segment assets	$392,370,323	$3,030,057	$395,400,380	$(1,301,218)	$394,099,162
Segment liabilities	$178,362,985	$1,700,045	$180,063,030	$(1,452)	$180,061,578

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,	
	2018	2017
Taiwan	$90,046,190	$114,047,141
Singapore	16,881,746	18,501,088
China (includes Hong Kong)	73,627,957	80,180,759
USA	31,919	29,866
Europe	155,489	165,590
Others	232	60
Total	$180,743,533	$212,924,504

Non-current assets include property, plant and equipment, intangible assets, prepayment for equipment and other noncurrent assets.

(3) Major customers

Individual customers accounting for at least 10% of net sales for the years ended December 31, 2018 and 2017 were as follows:

	For the years ended December 31,	
	2018	2017
Customer A from wafer fabrication segment	$15,357,470	$15,632,722

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, 2018

No. (Note 1)	Related party	Counterparty	Relationship with the Company (Note 2)	Transactions: Account	Transactions: Amount	Transactions: Collection periods (Note 3)	Transactions: Percentage of consolidated operating revenues or consolidated total assets (Note 4)
0	UNITED MICROELECTRONICS CORPORATION	UMC GROUP (USA)	1	Sales	$57,107,585	Net 60 days	38%
0	UNITED MICROELECTRONICS CORPORATION	UMC GROUP (USA)	1	Accounts receivable	7,312,272	-	2%
0	UNITED MICROELECTRONICS CORPORATION	UMC GROUP JAPAN	1	Sales	4,159,637	Net 60 days	3%
0	UNITED MICROELECTRONICS CORPORATION	UMC GROUP JAPAN	1	Accounts receivable	905,048	-	0%
0	UNITED MICROELECTRONICS CORPORATION	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	1	Sales	1,356,567 (Note 5)	Net 30 days	1%
0	UNITED MICROELECTRONICS CORPORATION	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	1	Accounts receivable	48,163	-	0%
1	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	UMC GROUP (USA)	3	Sales	698,988	Net 60 days	0%
1	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	UMC GROUP (USA)	3	Accounts receivable	120,678	-	0%
2	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UMC GROUP (USA)	3	Sales	307,471	Net 60 days	0%
2	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UMC GROUP (USA)	3	Accounts receivable	35,161	-	0%
2	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UMC GROUP JAPAN	3	Sales	272,218	Net 60 days	0%
2	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UMC GROUP JAPAN	3	Accounts receivable	61,971	-	0%

For the year ended December 31, 2017

No. (Note 1)	Related party	Counterparty	Relationship with the Company (Note 2)	Transactions: Account	Transactions: Amount	Transactions: Collection periods (Note 3)	Transactions: Percentage of consolidated operating revenues or consolidated total assets (Note 4)
0	UNITED MICROELECTRONICS CORPORATION	UMC GROUP (USA)	1	Sales	$59,968,172	Net 60 days	40%
0	UNITED MICROELECTRONICS CORPORATION	UMC GROUP (USA)	1	Accounts receivable	6,737,723	-	2%
0	UNITED MICROELECTRONICS CORPORATION	UMC GROUP JAPAN	1	Sales	4,212,523	Net 60 days	3%
0	UNITED MICROELECTRONICS CORPORATION	UMC GROUP JAPAN	1	Accounts receivable	659,488	-	0%
0	UNITED MICROELECTRONICS CORPORATION	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	1	Sales	998,899 (Note 5)	Net 30 days	1%
0	UNITED MICROELECTRONICS CORPORATION	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	1	Accounts receivable	4,790,930	-	1%
1	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UMC GROUP (USA)	3	Sales	214,147	Net 60 days	0%
1	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UMC GROUP (USA)	3	Accounts receivable	35,498	-	0%
1	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UMC GROUP JAPAN	3	Sales	223,740	Net 60 days	0%
1	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UMC GROUP JAPAN	3	Accounts receivable	43,332	-	0%
2	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	UMC GROUP (USA)	3	Sales	241,220	Net 60 days	0%
2	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	UMC GROUP (USA)	3	Accounts receivable	141,272	-	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 US$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, 2018)
(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 Item	Collateral Value	Limit of financing amount for individual counter-party (Note2)	Limit of total financing amount (Note2)
0	UNITED MICROELECTRONICS CORPORATION	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Other receivables - related parties	Yes	$10,182,440	$6,134,000	$-	2.05%~2.61%	The need for short-term financing	$-	Business turnover	$-	None	$-	$20,606,972	$82,427,889

TERA ENERGY DEVELOPMENT CO., LTD.

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 Item	Collateral Value	Limit of financing amount for individual counter-party (Note3)	Limit of total financing amount (Note3)
1	TERA ENERGY DEVELOPMENT CO., LTD.	TIPPING POINT ENERGY COC PPA SPE-1,LLC	Other receivables	No	$2,399	$2,399	$2,399	9.00%	Needs for operation	$2,399	-	$2,399	None	$-	$2,399	$32,659

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.

Note 3: Limit of financing amount for individual counter-party shall not exceed 10% of the lender's net assets value as of the period or the needed amount for operation, which is lower.

Limit of total financing amount shall not exceed 40% of latest financial statements of lender.

ATTACHMENT 3 (Endorsement/Guarantee provided to others for the year ended December 31, 2018)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

No. (Note 1)	Endorsor/Guarantor	Receiving party: Company name	Receiving party: Releationship (Note 2)	Limit of guarantee/endorsement amount for receiving party (Note 3)	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 4)
0	UNITED MICROELECTRONICS CORPORATION	NEXPOWER TECHNOLOGY CORP.	3	$92,731,375	$2,448,000	$2,448,000 (Note 5)	$747,900 (Note 5)	$-	1.19%	$92,731,375
0	UNITED MICROELECTRONICS CORPORATION	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	3	92,731,375	15,427,010	15,427,010 (Note 6)	14,766,115 (Note 6)	-	7.49%	92,731,375
0	UNITED MICROELECTRONICS CORPORATION	SOCIALNEX ITALIA 1 S.R.L.	3	92,731,375	19,917	- (Note 7)	- (Note 7)	-	-	92,731,375

HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.

No. (Note 1)	Endorsor/Guarantor	Receiving party: Company name	Receiving party: Releationship (Note 2)	Limit of guarantee/endorsement amount for receiving party (Note 8)	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 8)
1	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	6	$10,202,022	$9,020,588	$9,020,588	$4,219,276	$-	39.79%	$10,202,022

Note 1: The parent company and its subsidiaries are coded as follows:
1. The parent company is coded "0".
2. 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:
1. A company with which it does business.
2. A company in which the public company directly and indirectly holds more than 50% of the voting shares.
3. A company that directly and indirectly holds more than 50 % of the voting shares in the public company.
4. A company in which the public company holds, directly or indirectly, 90% or more of the voting shares.
5. 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.
6. A company that all capital contributing shareholders make endorsements/ guarantees for their jointly invested company in proportion to their shareholding percentages.
7. 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 endorsor/guarantor; and the ceilings on the amount of endorsements/guarantees for any single entity are as follows:
1. The amount of endorsements/guarantees for any single entity shall not exceed 45% of net worth of endorsor/guarantor.
2. The amount of endorsements/guarantees for a company which endorsor/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 endorsor/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, 2018.

Note 5: On December 24, 2014, the board of directors resolved to provide endorsement to NEXPOWER TECHNOLOGY CORP.'s syndicated loan from banks including Bank of Taiwan for the amount up to NT$1,700 million.
On December 12, 2018, the board of directors resolved to increase the endorsement amounted to NT$748 million. Total endorsement amount is up to NT$2,448 million.
As of December 31, 2018, actual amount provided was NT$748 million.

Note 6: On Feburary 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 amounted to USD 152 million, on October 24, 2018, the board of directors resolved to increase the endorsement amounted to USD 41 million. Total endorsement amount is up to USD 503 million.
As of December 31, 2018, actual amount provided was NT$14,766 million.

Note 7: On April 26, 2017, the board of directors resolved that UMC directly provided guarantee to SOCIALNEX ITALIA 1 S.R.L., NEXPOWER TECHNOLOGY CORP.'s subsidiary, in the amount up to EUR 558 thousand on June 20, 2017.
The guarantee to SOCIALNEX ITALIA 1 S.R.L. ended in August , 2018.

Note 8: Limit of total endorsed/guaranteed amount shall not exceed 45% of HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.'s net assets value as of December 31, 2018.
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, 2018.
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, 2018) (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, 2018 Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
Stock	ACTION ELECTRONICS CO., LTD.	-	Financial assets at fair value through profit or loss, current	18,182	$110,547	6.56	$110,547	None
Fund	MILLERFUL NO.1 REAL ESTATE INVESTMENT TRUST	-	Financial assets at fair value through profit or loss, current	18,000	180,900	1.70	180,900	None
Stock	PIXART IMAGING, INC.	-	Financial assets at fair value through profit or loss, current	1,600	139,840	1.18	139,840	None
Stock	KING YUAN ELECTRONICS CO., LTD.	-	Financial assets at fair value through profit or loss, current	2,675	62,194	0.22	62,194	None
Stock	PIXTECH, INC.	-	Financial assets at fair value through profit or loss, noncurrent	9,883	-	17.63	-	None
Stock	UNITED FU SHEN CHEN TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	17,511	-	15.75	-	None
Stock	HOLTEK SEMICONDUCTOR INC.	-	Financial assets at fair value through profit or loss, noncurrent	24,644	1,436,760	10.90	1,436,760	None
Stock	OCTTASIA INVESTMENT HOLDING INC.	-	Financial assets at fair value through profit or loss, noncurrent	6,692	238,077	9.29	238,077	None
Stock	UNITED INDUSTRIAL GASES CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	16,680	1,206,192	7.66	1,206,192	None
Stock	AMIC TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	5,627	-	4.71	-	None
Stock	SUBTRON TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	12,521	124,581	4.38	124,581	None
Stock	KING YUAN ELECTRONICS CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	20,483	476,222	1.68	476,222	None
Stock	EPISTAR CORP.	-	Financial assets at fair value through profit or loss, noncurrent	10,715	274,304	0.98	274,304	None
Stock	TOPOINT TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,184	21,188	0.82	21,188	None
Stock	PROMOS TECHNOLOGIES INC.	-	Financial assets at fair value through profit or loss, noncurrent	324	-	0.72	-	None
Stock-Preferred stock	TONBU, INC.	-	Financial assets at fair value through profit or loss, noncurrent	938	-	-	-	None
Stock-Preferred stock	AETAS TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,166	-	-	-	None
Stock-Preferred stock	TA SHEE GOLF & COUNTRY CLUB	-	Financial assets at fair value through profit or loss, noncurrent	0	26,700	-	26,700	None
Stock	SILICON INTEGRATED SYSTEMS CORP.	The Company's director	Financial assets at fair value through other comprehensive income, noncurrent	110,356	1,032,930	20.54	1,032,930	None
Stock	UNIMICRON HOLDING LIMITED	-	Financial assets at fair value through other comprehensive income, noncurrent	20,000	561,261	17.00	561,261	None
Stock	MIE FUJITSU SEMICONDUCTOR LIMITED	-	Financial assets at fair value through other comprehensive income, noncurrent	18,447	2,220,103	15.87	2,220,103	None
Stock	UNIMICRON TECHNOLOGY CORP.	-	Financial assets at fair value through other comprehensive income, noncurrent	196,136	4,373,833	13.03	4,373,833	None
Stock	ITE TECH. INC.	-	Financial assets at fair value through other comprehensive income, noncurrent	13,960	424,383	8.66	424,383	None
Stock	NOVATEK MICROELECTRONICS CORP.	-	Financial assets at fair value through other comprehensive income, noncurrent	16,445	2,335,131	2.70	2,335,131	None
Stock-Preferred stock	MTIC HOLDINGS PTE. LTD.	-	Financial assets at fair value through other comprehensive income, noncurrent	12,000	184,026	-	184,026	None
Stock	WAVETEK MICROELECTRONICS CORPORATION	Subsidiary	Prepayment of investment	13,294	132,937	-	N/A	None

ATTACHMENT 4 (Securities held as of December 31, 2018) (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, 2018 Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
Stock	DARCHUN VENTURE CORP.	-	Financial assets at fair value through profit or loss, noncurrent	1,782	$6,146	19.65	$6,146	None
Stock	SOLARGATE TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	957	-	15.94	-	None
Stock	TRONC-E CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,800	2,952	15.93	2,952	None
Stock	CENTERA PHOTONICS INC.	-	Financial assets at fair value through profit or loss, noncurrent	2,500	7,025	11.11	7,025	None
Stock	EVERGLORY RESOURCE TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,500	18,250	10.23	18,250	None
Stock	ADVANCE MATERIALS CORP.	-	Financial assets at fair value through profit or loss, noncurrent	10,719	55,523	8.67	55,523	None
Stock	MONTJADE ENGINEERING CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,800	27,000	8.18	27,000	None
Stock	WIN WIN PRECISION TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3,150	42,052	6.93	42,052	None
Stock	RISELINK VENTURE CAPITAL CORP.	-	Financial assets at fair value through profit or loss, noncurrent	1,754	13,668	6.67	13,668	None
Stock	ACT GENOMICS HOLDINGS CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	4,600	122,741	5.50	122,741	None
Stock	LICO TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	6,609	-	5.32	-	None
Stock	ACTI CORP.	-	Financial assets at fair value through profit or loss, noncurrent	1,968	15,939	5.31	15,939	None
Stock	TAIWAN AULISA MEDICAL DEVICES TECHNOLOGIES, INC.	-	Financial assets at fair value through profit or loss, noncurrent	800	9,552	4.97	9,552	None
Stock	WALTOP INTERNATIONAL CORP.	-	Financial assets at fair value through profit or loss, noncurrent	654	1,432	4.43	1,432	None
Stock	MERIDIGEN BIOTECH CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3,838	115,133	4.22	115,133	None
Stock	EXCELLENCE OPTOELECTRONICS INC.	-	Financial assets at fair value through profit or loss, noncurrent	6,374	111,862	3.72	111,862	None
Stock	SOLID STATE SYSTEM CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3,000	59,250	3.71	59,250	None
Stock	SUBTRON TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	10,059	100,085	3.52	100,085	None
Stock	ANIMATION TECHNOLOGIES INC.	-	Financial assets at fair value through profit or loss, noncurrent	265	-	3.16	-	None
Stock	TOPOINT TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	4,416	79,049	3.08	79,049	None
Stock	MOBILE DEVICES INC.	-	Financial assets at fair value through profit or loss, noncurrent	261	-	1.96	-	None
Stock	WIESON TECHNOLOGIES CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,141	4,564	1.71	4,564	None
Stock	ALL-STARS XMI LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3	117,111	1.37	117,111	None
Stock	CRYSTALWISE TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	2,114	25,362	1.29	25,362	None
Stock	NORATECH PHARMACEUTICALS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,000	15,970	0.95	15,970	None

ATTACHMENT 4 (Securities held as of December 31, 2018) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

FORTUNE VENTURE CAPITAL CORP.

				December 31, 2018				
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)
Stock	TAIWANJ PHARMACEUTICALS CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	582	$3,917	0.85	$3,917	None
Stock	POWERTEC ENERGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	9,930	58,089	0.75	58,089	None
Stock	PRIMESENSOR TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	434	430	0.71	430	None
Stock	FUSHENG PRECISION CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	700	111,650	0.59	111,650	None
Stock	QUASER MACHINE TOOLS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	200	9,980	0.50	9,980	None
Stock	FORTEMEDIA, INC.	-	Financial assets at fair value through profit or loss, noncurrent	21	1	0.02	1	None
Fund	TRANSLINK CAPITAL PARTNERS IV, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	41,936	3.90	41,936	None
Fund	VERTEX V (C.I.) FUND L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	23,002	1.89	23,002	None
Stock-Preferred Stock	EJOULE INTERNATIONAL LIMITED	-	Financial assets at fair value through profit or loss, noncurrent	23,909	184,020	-	184,020	None
Stock-Preferred Stock	FLOADIA CORP.	-	Financial assets at fair value through profit or loss, noncurrent	2	83,180	-	83,180	None
Stock-Preferred Stock	CEREBREX, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1	36,793	-	36,793	None
Stock-Preferred Stock	FORTEMEDIA, INC.	-	Financial assets at fair value through profit or loss, noncurrent	311	266	-	266	None
Convertible bonds	JIH LIN TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	100	9,950	-	9,950	None
Stock	SHIN-ETSU HANDOTAI TAIWAN CO., LTD.	-	Financial assets at fair value through other comprehensive income, noncurrent	10,500	453,810	7.00	453,810	None
Stock	UNITED MICROELECTRONICS CORP.	Parent company	Financial assets at fair value through other comprehensive income, noncurrent	16,079	180,886	0.13	180,886	None

TLC CAPITAL CO., LTD.

				December 31, 2018				
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)
Fund	EVERYI CAPITAL ASIA FUND, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	$122,882	18.18	$122,882	None
Stock	WINKING ENTERTAINMENT LTD.	-	Financial assets at fair value through profit or loss, noncurrent	6,433	197,286	17.53	197,286	None
Stock	BEAUTY ESSENTIALS INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	150,500	107,701	13.99	107,701	None
Fund	OAK HILL OPPORTUNITIES FUND, SEGREGATED PORTFOLIO	-	Financial assets at fair value through profit or loss, noncurrent	9	263,173	9.00	263,173	None
Stock	ACTI CORP.	-	Financial assets at fair value through profit or loss, noncurrent	2,252	18,238	6.08	18,238	None
Stock	EXCELLENCE OPTOELECTRONICS INC.	-	Financial assets at fair value through profit or loss, noncurrent	8,529	149,686	4.98	149,686	None
Stock	EVERGLORY RESOURCE TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,200	8,760	4.91	8,760	None
Stock	ADVANCE MATERIALS CORP.	-	Financial assets at fair value through profit or loss, noncurrent	5,435	28,152	4.39	28,152	None

ATTACHMENT 4 (Securities held as of December 31, 2018) (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, 2018 Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
Fund	TRANSLINK CAPITAL PARTNERS III, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	$167,417	4.24	$167,417	None
Stock	SUNDIA MEDITECH GROUP	-	Financial assets at fair value through profit or loss, noncurrent	779	12,703	3.23	12,703	None
Stock	WIESON TECHNOLOGIES CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,829	7,314	2.74	7,314	None
Fund	H&QAP GREATER CHINA GROWTH FUND, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	8,889	2.67	8,889	None
Stock	ALL-STARS XMI LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2	100,381	1.17	100,381	None
Stock	SIMPLO TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,422	295,876	0.77	295,876	None
Stock	TXC CORP.	-	Financial assets at fair value through profit or loss, noncurrent	1,978	64,087	0.64	64,087	None
Stock	POWERTEC ENERGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	6,470	37,849	0.49	37,849	None
Convertible bonds	DAFENG TV LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,700	177,650	-	177,650	None
Stock-Preferred stock	YOUJIA GROUP LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,685	44,483	-	44,483	None
Stock-Preferred stock	ALO7 LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,377	225,953	-	225,953	None
Stock-Preferred stock	ADWO MEDIA HOLDINGS LTD.	-	Financial assets at fair value through profit or loss, noncurrent	5,332	-	-	-	None
Stock-Preferred stock	IMO, INC.	-	Financial assets at fair value through profit or loss, noncurrent	8,519	-	-	-	None
Stock-Preferred stock	HIGHLANDER FINANCIAL GROUP CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	26,499	184,522	-	184,522	None
Stock-Preferred stock	X2 POWER TECHNOLOGIES LTD.	-	Financial assets at fair value through profit or loss, noncurrent	35,819	109,754	-	109,754	None
Stock-Preferred stock	GAME VIDEO LTD.	-	Financial assets at fair value through profit or loss, noncurrent	279	93,930	-	93,930	None
Stock-Preferred stock	CLOUD MOMENT (CAYMAN) INC.	-	Financial assets at fair value through profit or loss, noncurrent	359	17,109	-	17,109	None
Stock-Preferred stock	PLAYNITRIDE INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,739	124,754	-	124,754	None
Stock-Preferred stock	EJOULE INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	35,863	276,030	-	276,030	None
Stock-Preferred stock	TURNING POINT LASERS LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,000	61,340	-	61,340	None

UMC CAPITAL CORP.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2018 Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
Convertible bonds	SWIFTSTACK, INC.	-	Financial assets at fair value through profit or loss, current	-	USD 834	-	USD 834	None
Convertible bonds	CLOUDWORDS, INC.	-	Financial assets at fair value through profit or loss, current	-	USD 190	-	USD 190	None
Convertible bonds	GLYMPSE, INC.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 584	-	USD 584	None

ATTACHMENT 4 (Securities held as of December 31, 2018) (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, 2018 Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
Capital	TRANSLINK MANAGEMENT III, L.L.C.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 615	14.33	USD 615	None
Fund	TRANSLINK CAPITAL PARTNERS IV, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 4,102	11.70	USD 4,102	None
Fund	TRANSLINK CAPITAL PARTNERS III, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 14,759	11.47	USD 14,759	None
Stock	OCTTASIA INVESTMENT HOLDING INC.	-	Financial assets at fair value through profit or loss, noncurrent	7,035	USD 8,161	9.76	USD 8,161	None
Stock	ALL-STARS SP IV LTD.	-	Financial assets at fair value through profit or loss, noncurrent	7	USD 7,261	5.03	USD 7,261	None
Fund	TRANSLINK CAPITAL PARTNERS II, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 1,903	4.53	USD 1,903	None
Fund	OAK HILL OPPORTUNITIES FUND, SEGREGATED PORTFOLIO	-	Financial assets at fair value through profit or loss, noncurrent	4	USD 3,814	4.00	USD 3,814	None
Fund	SIERRA VENTURES XI, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 1,997	1.76	USD 1,997	None
Fund	STORM VENTURES FUND V, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 2,708	1.69	USD 2,708	None
Stock	ALL-STARS XMI LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3	USD 3,818	1.37	USD 3,818	None
Stock	ACHIEVE MADE INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	80	USD 27	0.57	USD 27	None
Stock	CIPHERMAX, INC.	-	Financial assets at fair value through profit or loss, noncurrent	95	-	-	-	None
Stock-Preferred stock	ACHIEVE MADE INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,644	USD 3,169	-	USD 3,169	None
Stock-Preferred stock	CNEX LABS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	3,052	USD 10,154	-	USD 10,154	None
Stock-Preferred stock	GLYMPSE, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,349	USD 1,570	-	USD 1,570	None
Stock-Preferred stock	ATSCALE, INC.	-	Financial assets at fair value through profit or loss, noncurrent	7,683	USD 7,559	-	USD 7,559	None
Stock-Preferred stock	SENSIFREE LTD.	-	Financial assets at fair value through profit or loss, noncurrent	276	USD 149	-	USD 149	None
Stock-Preferred stock	APPIER HOLDINGS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	52	USD 1,808	-	USD 1,808	None
Stock-Preferred stock	DCARD HOLDINGS LTD.	-	Financial assets at fair value through profit or loss, noncurrent	27,819	USD 3,857	-	USD 3,857	None
Stock-Preferred stock	NEXTINPUT, INC.	-	Financial assets at fair value through profit or loss, noncurrent	3,866	USD 1,164	-	USD 1,164	None
Stock-Preferred stock	SHOCARD, INC.	-	Financial assets at fair value through profit or loss, noncurrent	517	USD 453	-	USD 453	None
Stock-Preferred stock	GCT SEMICONDUCTOR, INC.	-	Financial assets at fair value through profit or loss, noncurrent	175	USD 23	-	USD 23	None
Stock-Preferred stock	FORTEMEDIA, INC.	-	Financial assets at fair value through profit or loss, noncurrent	12,241	USD 2,740	-	USD 2,740	None
Stock-Preferred stock	SIFOTONICS TECHNOLOGIES CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3,500	USD 6,053	-	USD 6,053	None
Stock-Preferred stock	NEVO ENERGY, INC.	-	Financial assets at fair value through profit or loss, noncurrent	4,980	-	-	-	None

ATTACHMENT 4 (Securities held as of December 31, 2018) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UMC CAPITAL CORP.

				December 31, 2018				Shares as collateral (thousand)
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	
Stock-Preferred stock	TRILLIANT HOLDINGS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	4,000	USD 5,633	-	USD 5,633	None
Stock-Preferred stock	SWIFTSTACK, INC.	-	Financial assets at fair value through profit or loss, noncurrent	2,855	USD 1,033	-	USD 1,033	None
Stock-Preferred stock	NEXENTA SYSTEMS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	6,555	USD 159	-	USD 159	None
Stock-Preferred stock	CLOUDWORDS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	9,461	USD 4,342	-	USD 4,342	None
Stock-Preferred stock	ZYLOGIC SEMICONDUCTOR CORP.	-	Financial assets at fair value through profit or loss, noncurrent	750	-	-	-	None
Stock-Preferred stock	EAST VISION TECHNOLOGY LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,770	-	-	-	None
Stock-Preferred stock	SENSIFREE LTD.	-	Prepayments for investments	-	USD 565	-	N/A	None

TERA ENERGY DEVELOPMENT CO., LTD.

				December 31, 2018				Shares as collateral (thousand)
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	
Stock	TIAN TAI PHOTOELECTRICITY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	375	$5,985	1.18	$5,985	None

NEXPOWER TECHNOLOGY CORP.

				December 31, 2018				Shares as collateral (thousand)
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	
Stock	PACIFIC-GREEN INTEGRATED TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	54	$-	18.00	$-	None

SINO PARAGON LIMITED

				December 31, 2018				Shares as collateral (thousand)
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	
Fund	SPARKLABS GLOBAL VENTURES FUND I, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	$82,182	11.13	$82,182	None
Fund	SPARKLABS KOREA FUND II, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	35,738	8.09	35,738	None

UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.

				December 31, 2018				Shares as collateral (thousand)
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	
Fund	LANHOR FUND	-	Financial assets at fair value through profit or loss, noncurrent	-	RMB 49,506	9.71	RMB 49,506	None

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, 2018)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

					Beginning balance		Addition		Disposal				Ending balance	
Type of securities	Name of the securities	Financial statement account	Counter-party	Relationship	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)	Units (thousand)/ bonds/ shares (thousand)	Amount	Units (thousand)/ bonds/ shares (thousand)	Amount	Cost	Gain (Loss) from disposal	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)
Stock	GREEN EARTH LIMITED	Investments accounted for under the equity method	Purchase of newly issued shares	Subsidiaries	420,000	$9,243,073	557,000	$16,689,894	-	$-	$-	$-	977,000	$17,150,726 (Note 2)
Stock	TRIKNIGHT CAPITAL CORPORATION	Investments accounted for under the equity method	Purchase of newly issued shares	Associate	84,000	894,809	84,000	840,000	-	-	-	-	168,000	1,520,575 (Note 3)

Note 1 : The amounts of beginning and ending balances of investments accounted for under the equity method include adjustments under the equity method.

Note 2 : The ending balance includes share of loss of associates and joint ventures of $(5,570,897) thousand, retained earnings adjustment under equity method of $(2,155,223) thousand and exchange differences on translation of foreign operations adjustment under equity method of $(1,056,121) thousand.

Note 3 : The ending balance includes share of loss of associates and joint ventures of $(200,234) thousand,and cash dividends $(14,000) thousand.

FORTUNE VENTURE CAPITAL CORP.

					Beginning balance		Addition(Note 3)		Disposal				Ending balance	
Type of securities	Name of the securities	Financial statement account	Counter-party	Relationship	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)	Units (thousand)/ bonds/ shares (thousand)	Amount	Units (thousand)/ bonds/ shares (thousand)	Amount	Cost (Note 2)	Gain (Loss) from disposal	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)
Stock	MOTECH INDUSTRIES, INC.	Financial assets at fair value through profit or loss, noncurrent	Open market	-	-	$-	21,998	$338,776	21,998	$300,414	$338,776	$(38,362)	-	$-

Note 1 : The amounts of beginning and ending balances of financial assets at fair value through profit or loss, noncurrent are recorded at the prevailing market prices.

Note 2 : The disposal cost represents historical cost.

Note 3 : As of July 1, 2018, UMC NEW BUSINESS INVESTMENT CORP. was merged with FORTUNE VENTURE CAPITAL CORP. (FORTUNE) and FORTUNE is the surviving company. FORTUNE get the stock of MOTECH INDUSTRIES, INC. from merging.

GREEN EARTH LIMITED

					Beginning balance		Addition		Disposal				Ending balance	
Type of securities	Name of the securities	Financial statement account	Counter-party	Relationship	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)	Units (thousand)/ bonds/ shares (thousand)	Amount	Units (thousand)/ bonds/ shares (thousand)	Amount	Cost	Gain (Loss) from disposal	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)
Capital	UNITED MICROCHIP CORPORATION	Investments accounted for under the equity method	Purchase of newly issued shares	Subsidiaries	410,050	$9,008,924	564,000	$16,896,828	-	$-	$-	$-	974,050	$17,123,928 (Note2)

Note 1 : The amounts of beginning and ending balances of investments accounted for under the equity method include adjustment under the equity method.

Note 2 : The ending balance includes share of loss of associates and joint ventures of $(5,570,480) thousand, retained earnings adjustment under equity method of $(2,155,223) thousand and exchange differences on translation of foreign operations adjustment under equity method of $(1,056,121) thousand.

UNITED MICROCHIP CORPORATION

					Beginning balance		Addition		Disposal				Ending balance	
Type of securities	Name of the securities	Financial statement account	Counter-party	Relationship	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)	Units (thousand)/ bonds/ shares (thousand)	Amount	Units (thousand)/ bonds/ shares (thousand)	Amount	Cost	Gain (Loss) from disposal	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)
Capital	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Investments accounted for under the equity method	Purchase of newly issued shares	Associate	-	$8,807,847	-	$16,825,071	-	$-	$-	$-	-	$16,843,287 (Note2)

Note 1 : The amounts of beginning and ending balances of investments accounted for under the equity method include adjustment under the equity method.

Note 2 : The ending balance includes share of loss of associates and joint ventures of $(5,578,287) thousand, retained earnings adjustment under equity method of $(2,155,223) thousand and exchange differences on translation of foreign operations adjustment under equity method of $(1,056,121) thousand.

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, 2018)

(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, 2018)

(Amount in thousand; Currency denomination in NTD or in foreign currencies)

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
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, 2018)

(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

		Transactions				Details of non-arm's length transaction		Notes and accounts receivable (payable)		
Counter-party	Relationship	Purchases (Sales)	Amount	Percentage of total purchases (sales)	Term	Unit price	Term	Balance	Percentage of total receivables (payable)	Note
UMC GROUP (USA)	Subsidiary	Sales	$57,107,585	43 %	Net 60 days	N/A	N/A	$7,312,272	33 %	
UMC GROUP JAPAN	Subsidiary	Sales	4,159,637	3 %	Net 60 days	N/A	N/A	905,048	4 %	
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Subsidiary	Sales	1,356,567	1 %	Net 30 days	N/A	N/A	48,163	0 %	
FARADAY TECHNOLOGY CORPORATION	Associate	Sales	861,160	1 %	Month-end 60 days	N/A	N/A	85,878	0 %	

UMC GROUP (USA)

		Transactions					Details of non-arm's length transaction		Notes and accounts receivable (payable)			
Counter-party	Relationship	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	USD	1,847,007	98 %	Net 60 days	N/A	N/A	USD	238,452	98 %	
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Associate	Purchases	USD	21,006	1 %	Net 60 days	N/A	N/A	USD	3,954	2 %	
HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	Associate	Purchases	USD	10,180	1 %	Net 60 days	N/A	N/A	USD	1,152	0 %	

UMC GROUP JAPAN

		Transactions					Details of non-arm's length transaction		Notes and accounts receivable (payable)			
Counter-party	Relationship	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	JPY	14,439,961	94 %	Net 60 days	N/A	N/A	JPY	3,272,967	94 %	
HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	Associate	Purchases	JPY	956,518	6 %	Net 60 days	N/A	N/A	JPY	225,199	6 %	

HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.

		Transactions					Details of non-arm's length transaction		Notes and accounts receivable (payable)			
Counter-party	Relationship	Purchases (Sales)		Amount	Percentage of total purchases (sales)	Term	Unit price	Term		Balance	Percentage of total receivables (payable)	Note
UMC GROUP (USA)	Associate	Sales	RMB	66,759	3 %	Net 60 days	N/A	N/A	RMB	7,907	2 %	
FARADAY TECHNOLOGY CORPORATION	Associate	Sales	RMB	64,948	3 %	Net 45 days	N/A	N/A	RMB	9,171	3 %	
UMC GROUP JAPAN	Associate	Sales	RMB	59,269	3 %	Net 60 days	N/A	N/A	RMB	13,935	4 %	

UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.

		Transactions					Details of non-arm's length transaction		Notes and accounts receivable (payable)			
Counter-party	Relationship	Purchases (Sales)		Amount	Percentage of total purchases (sales)	Term	Unit price	Term		Balance	Percentage of total receivables (payable)	Note
UMC GROUP (USA)	Associate	Sales	RMB	153,304	11 %	Net 60 days	N/A	N/A	RMB	27,137	13 %	

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, 2018)

(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

		Ending balance					Overdue receivables			
Counter-party	Relationship	Notes receivable	Accounts receivable	Other receivables	Total	Turnover rate (times)	Amount	Collection status	Amount received in subsequent period	Loss allowance
UMC GROUP (USA)	Subsidiary	$-	$7,312,272	$1,069	$7,313,341	8.13	$-	Collection in subsequent period	$7,313,341	$-
UMC GROUP JAPAN	Subsidiary	-	905,048	3	905,051	5.32	193,111	Collection in subsequent period	793,239	-

UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.

		Ending balance					Overdue receivables			
Counter-party	Relationship	Notes receivable	Accounts receivable	Other receivables	Total	Turnover rate (times)	Amount	Collection status	Amount received in subsequent period	Loss allowance
UMC GROUP (USA)	Associate	$-	RMB 27,137	$-	RMB 27,137	5.27	$-	Collection in subsequent period	RMB 7,868	$-

ATTACHMENT 10 (Names, locations and related information of investee companies as of December 31, 2018) (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, 2018					
			Ending balance		Beginning balance		Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
UMC GROUP (USA)	USA	IC Sales	USD	16,438	USD	16,438	16,438	100.00	$1,712,388	$51,023	$51,023	
UNITED MICROELECTRONICS (EUROPE) B.V.	The Netherlands	Marketing support activities	USD	5,421	USD	5,421	9	100.00	142,532	2,749	2,749	
UMC CAPITAL CORP.	Cayman Islands	Investment holding	USD	81,500	USD	81,500	71,663	100.00	3,496,187	(114,609)	(120,668)	
GREEN EARTH LIMITED	Samoa	Investment holding	USD	977,000	USD	420,000	977,000	100.00	17,150,726	(5,570,897)	(5,570,897)	
TLC CAPITAL CO., LTD.	Taipei City, Taiwan	Venture capital		4,610,000		5,450,000	387,600	100.00	4,246,675	(28,853)	(28,853)	
UMC INVESTMENT (SAMOA) LIMITED	Samoa	Investment holding	USD	1,520	USD	1,520	1,520	100.00	42,908	532	532	
FORTUNE VENTURE CAPITAL CORP.	Taipei City, Taiwan	Consulting and planning for venture capital		4,160,053		4,160,053	462,000	100.00	5,358,068	(196,483)	(207,925)	
UMC GROUP JAPAN	Japan	IC Sales	JPY	60,000	JPY	60,000	1	100.00	45,187	43,056	43,056	
UMC KOREA CO., LTD.	Korea	Marketing support activities	KRW	550,000	KRW	550,000	110	100.00	20,688	1,148	1,148	
OMNI GLOBAL LIMITED	Samoa	Investment holding	USD	4,300	USD	4,300	4,300	100.00	572,512	42,683	42,683	
SINO PARAGON LIMITED	Samoa	Investment holding	USD	2,600	USD	2,600	2,600	100.00	120,901	14,442	14,442	
BEST ELITE INTERNATIONAL LIMITED	British Virgin Islands	Investment holding	USD	309,102	USD	309,102	664,966	100.00	23,090,363	376,114	366,937	
WAVETEK MICROELECTRONICS CORPORATION	Hsinchu County, Taiwan	Sales and manufacturing of integrated circuits		1,707,482		1,707,482	126,230	77.74	275,854	(308,322)	(239,687)	
NEXPOWER TECHNOLOGY CORP.	Taichung City, Taiwan	Sales and manufacturing of solar power batteries		5,956,791		5,777,225	33,998	47.75	53,958	(351,503)	(160,342)	
MTIC HOLDINGS PTE. LTD.	Singapore	Investment holding	SGD	12,000	SGD	12,000	12,000	45.44	3,026	(66,071)	189,070	
UNITECH CAPITAL INC.	British Virgin Islands	Investment holding	USD	21,000	USD	21,000	21,000	42.00	568,005	(287,977)	(120,950)	
TRIKNIGHT CAPITAL CORPORATION	Taipei City, Taiwan	Investment holding		1,680,000		840,000	168,000	40.00	1,520,575	(500,583)	(200,234)	
HSUN CHIEH INVESTMENT CO., LTD.	Taipei City, Taiwan	Investment holding		336,241		336,241	168,973	36.49	3,419,430	(1,397,996)	(513,464)	
YANN YUAN INVESTMENT CO., LTD.	Taipei City, Taiwan	Investment holding		2,300,000		2,300,000	46,000	30.87	2,642,543	278,496	85,978	
FARADAY TECHNOLOGY CORPORATION	Hsinchu City, Taiwan	Design of application-specific integrated circuit		38,918		38,918	34,240	13.78	1,477,167	(417,599)	(57,528)	
UMC NEW BUSINESS INVESTMENT CORP.	Taipei City, Taiwan	Investment holding		-		5,900,000	-	-	-	(218,697)	(218,697)	Note

Note：As of July 1, 2018, UMC NEW BUSINESS INVESTMENT CORP. was merged with FORTUNE VENTURE CAPITAL CORP. (FORTUNE) and FORTUNE is the surviving company.

ATTACHMENT 10 (Names, locations and related information of investee companies as of December 31, 2018) (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	Initial Investment: Ending balance	Initial Investment: Beginning balance	Investment as of December 31, 2018: Number of shares (thousand)	Investment as of December 31, 2018: Percentage of ownership (%)	Investment as of December 31, 2018: Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
TERA ENERGY DEVELOPMENT CO., LTD.	Hsinchu City, Taiwan	Energy Technical Services	$100,752	$-	18,655	100.00	$81,648	$1,786	$(1,451)	Note 1
NEXPOWER TECHNOLOGY CORP.	Taichung City, Taiwan	Sales and manufacturing of solar power batteries	1,688,630	1,578,630	23,827	33.46	37,815	(351,503)	(121,932)	
WINAICO IMMOBILIEN GMBH	Germany	Solar project	EUR 5,900	-	5,900	32.78	-	(385,242)	-	Note 1
UNITED LED CORPORATION HONG KONG LIMITED	Hongkong	Investment holding	USD 22,500	-	22,500	25.14	167,953	(180,315)	(22,086)	Note 1
CLIENTRON CORP.	Xinbei City, Taiwan	Thin client	283,439	308,580	14,247	22.39	249,762	88,246	17,718	
WAVETEK MICROELECTRONICS CORPORATION	Hsinchu County, Taiwan	Sales and manufacturing of integrated circuits	8,856	8,856	1,194	0.73	4,468	(308,322)	(2,267)	
UNISTARS CORPORATION	Hsinchu County, Taiwan	High brightness LED packages	-	-	-	-	-	(49,879)	(22,990)	Note 1, 2

Note 1 : As of July 1, 2018, UMC NEW BUSINESS INVESTMENT CORP. was merged with FORTUNE VENTURE CAPITAL CORP. (FORTUNE) and FORTUNE is the surviving company.
Note 2 : UNISTARS CORPORATION was disposed in December 2018.

TLC CAPITAL CO., LTD.

Investee company	Address	Main businesses and products	Initial Investment: Ending balance	Initial Investment: Beginning balance	Investment as of December 31, 2018: Number of shares (thousand)	Investment as of December 31, 2018: Percentage of ownership (%)	Investment as of December 31, 2018: Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
SOARING CAPITAL CORP.	Samoa	Investment holding	USD 900	USD 900	900	100.00	$14,199	$(1,904)	$(1,904)	
YUNG LI INVESTMENTS, INC.	Taipei City, Taiwan	Investment holding	22,581	59,125	2,258	45.16	2,213	(6,784)	(3,064)	
HSUN CHIEH CAPITAL CORP.	Samoa	Investment holding	USD 6,000	USD 6,000	6,000	30.00	161,319	(69,437)	(20,831)	
VSENSE CO., LTD.	Taipei City, Taiwan	Medical devices, measuring equipment, reagents and consumables	95,916	95,916	4,251	26.89	31,544	(24,693)	(7,000)	
NEXPOWER TECHNOLOGY CORP.	Taichung City, Taiwan	Sales and manufacturing of solar power batteries	888,019	828,019	8,645	12.14	13,721	(351,503)	(32,118)	

UMC CAPITAL CORP.

Investee company	Address	Main businesses and products	Initial Investment: Ending balance	Initial Investment: Beginning balance	Investment as of December 31, 2018: Number of shares (thousand)	Investment as of December 31, 2018: Percentage of ownership (%)	Investment as of December 31, 2018: Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
UMC CAPITAL (USA)	USA	Investment holding	USD 200	USD 200	200	100.00	USD 546	USD 11	USD 11	
TRANSLINK CAPITAL PARTNERS I, L.P.	Cayman Islands	Investment holding	USD 4,036	USD 4,036	-	10.38	USD 3,927	USD 3,168	USD 263	

ATTACHMENT 10 (Names, locations and related information of investee companies as of December 31, 2018) (Not including investment in Mainland China)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UMC NEW BUSINESS INVESTMENT CORP.(Note)

Investee company	Address	Main businesses and products	Initial Investment: Ending balance	Initial Investment: Beginning balance	Investment as of December 31, 2018: Number of shares (thousand)	Investment as of December 31, 2018: Percentage of ownership (%)	Investment as of December 31, 2018: Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
TERA ENERGY DEVELOPMENT CO., LTD.	Hsinchu City, Taiwan	Energy Technical Services	$-	$190,752	-	-	$-	$1,786	$3,237	
UNISTARS CORPORATION	Hsinchu County, Taiwan	High brightness LED packages	-	606,980	-	-	-	(49,879)	(18,916)	
WINAICO IMMOBILIEN GMBH	Germany	Solar project	-	EUR 5,900	-	-	-	(385,242)	-	
UNITED LED CORPORATION HONG KONG LIMITED	Hongkong	Investment holding	-	USD 22,500	-	-	-	(180,315)	(23,244)	

Note：As of July 1, 2018, UMC NEW BUSINESS INVESTMENT CORP. was merged with FORTUNE VENTURE CAPITAL CORP. (FORTUNE) and FORTUNE is the surviving company.

TERA ENERGY DEVELOPMENT CO., LTD.

Investee company	Address	Main businesses and products	Initial Investment: Ending balance	Initial Investment: Beginning balance	Investment as of December 31, 2018: Number of shares (thousand)	Investment as of December 31, 2018: Percentage of ownership (%)	Investment as of December 31, 2018: Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
EVERRICH ENERGY INVESTMENT (HK) LIMITED	Hongkong	Investment holding	USD 750	USD 1,092	750	100.00	$32,358	$2,987	$2,987	
WINAICO SOLAR PROJEKT 1 GMBH	Germany	Solar project	EUR 1,120	EUR 1,120	1,120	50.00	-	(47,087)	-	
WINAICO IMMOBILIEN GMBH	Germany	Solar project	EUR 2,160	EUR 2,160	2,160	12.00	-	(385,242)	-	

WAVETEK MICROELECTRONICS CORPORATION

Investee company	Address	Main businesses and products	Initial Investment: Ending balance	Initial Investment: Beginning balance	Investment as of December 31, 2018: Number of shares (thousand)	Investment as of December 31, 2018: Percentage of ownership (%)	Investment as of December 31, 2018: Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
WAVETEK MICROELECTRONICS INVESTMENT (SAMOA) LIMITED	Samoa	Investment holding	USD 1,500	USD 1,200	1,500	100.00	$9,106	$(7,277)	$(7,277)	

WAVETEK MICROELECTRONICS INVESTMENT (SAMOA) LIMITED

Investee company	Address	Main businesses and products	Initial Investment: Ending balance	Initial Investment: Beginning balance	Investment as of December 31, 2018: Number of shares (thousand)	Investment as of December 31, 2018: Percentage of ownership (%)	Investment as of December 31, 2018: Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
WAVETEK MICROELECTRONICS CORPORATION (USA)	USA	Sales and marketing service	USD 60	USD 60	60	100.00	$2,601	$194	$194	

NEXPOWER TECHNOLOGY CORP.

Investee company	Address	Main businesses and products	Initial Investment: Ending balance	Initial Investment: Beginning balance	Investment as of December 31, 2018: Number of shares (thousand)	Investment as of December 31, 2018: Percentage of ownership (%)	Investment as of December 31, 2018: Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
SOCIALNEX ITALIA 1 S.R.L.	Italy	Photovoltaic power plant	EUR 3,637	EUR 3,637	-	100.00	$125,356	$1,342	$1,342	

ATTACHMENT 10 (Names, locations and related information of investee companies as of December 31, 2018) (Not including investment in Mainland China)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

BEST ELITE INTERNATIONAL LIMITED

			Initial Investment				Investment as of December 31, 2018					
Investee company	Address	Main businesses and products	Ending balance		Beginning balance		Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
INFOSHINE TECHNOLOGY LIMITED	British Virgin Islands	Investment holding	USD	354,000	USD	354,000	-	100.00	$23,013,970	$381,162	$381,162	

INFOSHINE TECHNOLOGY LIMITED

			Initial Investment				Investment as of December 31, 2018					
Investee company	Address	Main businesses and products	Ending balance		Beginning balance		Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
OAKWOOD ASSOCIATES LIMITED	British Virgin Islands	Investment holding	USD	354,000	USD	354,000	-	100.00	$23,013,970	$381,162	$381,162	

OMNI GLOBAL LIMITED

			Initial Investment				Investment as of December 31, 2018					
Investee company	Address	Main businesses and products	Ending balance		Beginning balance		Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
UNITED MICROTECHNOLOGY CORPORATION (NEW YORK)	USA	Research & Development	USD	950	USD	950	0	100.00	$30,881	$(29)	$(29)	
UNITED MICROTECHNOLOGY CORPORATION (CALIFORNIA)	USA	Research & Development	USD	1,000	USD	1,000	0	100.00	34,343	2,328	2,328	
ECP VITA PTE. LTD.	Singapore	Insurance	USD	9,000	USD	9,000	9,000	100.00	518,747	41,130	41,130	
UMC TECHNOLOGY JAPAN CO., LTD.	Japan	Semiconductor manufacturing technology development and consulting services	JPY	35,000	JPY	35,000	4	100.00	9,111	(246)	(246)	

GREEN EARTH LIMITED

			Initial Investment				Investment as of December 31, 2018					
Investee company	Address	Main businesses and products	Ending balance		Beginning balance		Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
UNITED MICROCHIP CORPORATION	Cayman	Investment holding	USD	974,050	USD	410,050	974,050	100.00	$17,123,928	$(5,570,480)	$(5,570,480)	

ATTACHMENT 11 (Investment in Mainland China as of December 31, 2018)
(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, 2018	Investment flows: Outflow	Investment flows: Inflow	Accumulated outflow of investment from Taiwan as of December 31, 2018	Net income (loss) of investee company	Percentage of ownership	Investment income (loss) recognized (Note 2)	Carrying amount as of December 31, 2018	Accumulated inward remittance of earnings as of December 31, 2018
UNITRUTH ADVISOR (SHANGHAI) CO., LTD.	Investment Holding and advisory	$24,536 (USD 800)	(ii)SOARING CAPITAL CORP.	$24,536 (USD 800)	$-	$-	$24,536 (USD 800)	$(1,812)	100.00%	$(1,812) (iii)	$13,962	$-
SHANDONG HUAHONG ENERGY INVEST CO., INC.	Invest new energy business	1,334,100 (RMB 300,000)	(i)	41,711 (USD 1,360)	-	-	41,711 (USD 1,360)	(5,549)	-	- (iii)	-	-
JINING SUNRICH SOLAR ENERGY CORP.	To construct, operate, and maintain solar power plant	1,245,160 (RMB 280,000)	(iii)SHANDONG HUAHONG ENERGY INVEST CO., INC.	641,923 (USD 20,930)	-	-	641,923 (USD 20,930)	(5,296)	-	- (iii)	-	-
EVERRICH (SHANDONG) ENERGY CO., LTD.	Solar engineering integrated design services	23,003 (USD 750)	(ii)EVERRICH ENERGY INVESTMENT (HK) LIMITED	23,003 (USD 750)	-	-	23,003 (USD 750)	3,108	100.00%	3,108 (iii)	31,805	134,703 (USD 4,392)
UNITED LED CORPORATION	Research, manufacturing and sales in LED epitaxial wafers	2,576,280 (USD 84,000)	(ii)UNITED LED CORPORATION HONG KONG LIMITED	621,068 (USD 20,250)	-	-	621,068 (USD 20,250)	(176,097) (RMB (39,599))	25.14%	(44,270) (RMB (9,955)) (ii)	159,785 (RMB 35,931)	-
HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	Sales and manufacturing of integrated circuits	14,252,697 (RMB 3,205,014)	(ii)OAKWOOD ASSOCIATES LIMITED	9,480,158 (USD 309,102)	-	-	9,480,158 (USD 309,102)	351,073 (RMB 78,946)	98.14% (Note 4)	341,739 (RMB 76,847) (ii)	22,248,377 (RMB 5,003,008)	-
UMC (BEIJING) LIMITED	Marketing support activities	–	(ii)UMC INVESTMENT (SAMOA) LIMITED	15,335 (USD 500)	-	-	15,335 (USD 500)	(424)	- (Note 6)	(424) (iii)	-	-
UNITEDDS SEMICONDUCTOR (SHANDONG) CO., LTD.	Design support of integrated circuits	133,410 (RMB 30,000)	(iii)HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	-	-	-	-	14,355 (RMB 3,228)	98.14%	14,359 (RMB 3,229) (iii)	190,865 (RMB 42,920)	-
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Sales and manufacturing of integrated circuits	56,467,090 (RMB 12,697,794)	(ii)UNITED MICROCHIP CORPORATION and (iii)HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	12,368,230 (USD 403,268) (Note 5)	17,227,277 (USD 561,698)	-	29,595,507 (USD 964,966) (Note 5)	(11,435,314) (RMB (2,571,467))	64.95%	(7,178,312) (RMB (1,614,192)) (ii)	21,990,833 (RMB 4,945,094)	-

Accumulated investment in Mainland China as of December 31, 2018	Investment amounts authorized by Investment Commission, MOEA	Upper limit on investment
$40,443,241 (USD 1,318,658)	$50,621,295 (USD 1,650,515)	$123,641,834

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 US$383,569 thousand. As of December 31, 2018, 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 US$1,222,356 thousand. As of December 31, 2018, the amount of investment has been all remitted.

Note 6 : The liquidation of UMC (BEIJING) LIMITED was completed as of June 20, 2018.

UNITED MICROELECTRONICS CORPORATION
PARENT COMPANY ONLY
FINANCIAL STATEMENTS
WITH REPORT OF INDEPENDENT AUDITORS
FOR THE YEARS ENDED
DECEMBER 31, 2018 AND 2017

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 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.

Independent Auditors' Report Translated from Chinese

To United Microelectronics Corporation

Opinion

We have audited the accompanying parent company only balance sheets of United Microelectronics Corporation (the "Company") as of December 31, 2018 and 2017, and the related parent company only statements of comprehensive income, changes in equity and cash flows for the years ended December 31, 2018 and 2017, 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, 2018 and 2017, and its financial performance and cash flows for the years ended December 31, 2018 and 2017, 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.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of 2018 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.

1. Revenue Recognition

Net sales recognized by the Company amounted to NT$123,643 million for the year ended December 31, 2018. The timing of revenue recognition for the Company's wafer fabrication sales mainly depends on the trade term, Free Carrier, which remained unchanged after adopting IFRS 15 "Revenue from Contracts with Customers" (IFRS 15). Based on IFRS15, the Company recognizes revenue as it satisfies the performance obligation upon transfer of promised goods to carriers approved by the customers. However, there exists a risk of revenues being recorded in an inappropriate period before the Company satisfies the performance obligation where physical deliveries have not been fulfilled. Therefore, we considered this a key audit matter.

Our audit procedures included, but not limited to, assessing the appropriateness of the accounting policy of revenue recognition, including the reassessment of revenue recognition upon the adoption of IFRS 15; evaluating and testing the design and operating effectiveness of internal controls around revenue recognition under IFRS 15; selecting samples to perform tests of details and reviewing significant terms and condition of contracts to verify the occurrence of transactions and reasonableness of the timing of revenue recognition; confirming significant contractual terms; performing cut-off testing by selecting a sample of transactions from either side of year-end and vouching them to supporting evidences to ensure the reasonableness of revenue cut-off; reviewing significant subsequent sales returns and discounts to verify the occurrence of sales transactions recorded before the balance sheet date; and executing tests of journal entries prepared by management and reviewing manual sales journal entries to validate the consistency with the substance of transactions.

We also assessed the adequacy of disclosures of operating revenues, including the transitional disclosures for the adoption of IFRS 15. Please refer to Note 6 to the parent company only financial statements.

2. Valuation for slow-moving inventories

As of December 31, 2018, the Company's net inventories amounted to NT$15,215 million. As the semiconductor industry is characterized by rapid changes in technology, management has to evaluate loss due to write-downs of slow moving inventories to their net realizable values. Considering the amount of inventories was significant and the identification of slow-moving inventories and the assessment of the amount of inventory write-downs require significant management judgement, we determined this a key audit matter.

Our audit procedures included, but not limited to, evaluating and testing the design and operating effectiveness of internal controls around slow-moving inventories, including the methodologies and assumptions used as well as the application controls in relation to the calculation of inventory aging; testing key assumptions relating to the valuation of write-downs from slow-moving inventories, including performing a retrospective evaluation by comparing actual results to the estimate made in the prior year to determine the reasonableness of management's estimates of slow-moving inventories.

We also assessed the adequacy of disclosures of inventories. Please refer to Notes 5 and 6 to the parent company only financial statements.

3. Valuation of financial assets in Level 3 fair value measurement

As of December 31, 2018, the Company invested in financial assets, of which NT$4,410 million was categorized as level 3 of fair value hierarchy (as significant pricing inputs to them are unobservable), mainly comprised of common stocks and preferred stocks of unlisted companies. Valuation of these level 3 investments involves application of different valuation techniques and assumptions in relation to the use of unobservable inputs, including cash flow forecasts, the selection of comparable companies or equity transaction prices, as well as the application of assumptions such as discount rates, discounts for lack of marketability and valuation multiples. Considering the determination of aforementioned assumptions involved management judgments which could significantly affect the reported fair value of the financial assets, we considered this a key audit matter.

Our audit procedures included, but not limited to, evaluating and testing the design and operating effectiveness of internal controls around valuation of financial assets, including the classification and measurement of financial assets upon the initial application of IFRS 9 as well as management's decision and approval of the methods and assumptions used in valuation model; reassessing the reasonableness of cash flow forecasts, the selection of comparable companies or equity transaction prices, as well as the application of assumptions such as discount rates, discounts for lack of marketability and valuation multiples for individual investments with the assistance of our internal valuation specialists on a sample basis; assessing whether the valuations performed by management were within a reasonable range compared to the valuations performed by our internal valuation specialists; and validating the accuracy of inputs of financial information of the selected comparable companies by benchmarking them with public information.

We also assessed the adequacy of disclosures of financial assets, including the transitional disclosures for the adoption of IFRS 9. Please refer to Notes 5 and 12 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$8,151 million and NT$8,368 million, representing 2.72% and 2.60% of total assets as of December 31, 2018 and 2017, respectively. The related shares of profits (loss) from the subsidiaries, associates and joint ventures under the equity method amounted to NT$(749) million and NT$301 million, representing (12.06)% and 2.89% of the income before tax for the years ended December 31, 2018 and 2017, respectively, and the related shares of other comprehensive income (loss) from the subsidiaries, associates and joint ventures under the equity method amounted to NT$(230) million and NT$1,314 million, representing (2.83)% and 23.02% of the comprehensive income (loss) for the years ended December 31, 2018 and 2017, 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 2018 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

March 6, 2019

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 accountants 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, 2018 and 2017

(Expressed in Thousands of New Taiwan Dollars)

Assets	Notes	As of December 31, 2018	As of December 31, 2017
Current assets			
Cash and cash equivalents	4, 6(1)	$ 59,342,170	$ 60,282,802
Financial assets at fair value through profit or loss, current	4, 5, 6(2), 12(7)	497,042	694,743
Contract assets, current	4, 6(19)	81,187	-
Notes receivable	4	118	124
Accounts receivable, net	4, 6(3)	13,583,599	10,387,316
Accounts receivable-related parties, net	4, 7	8,359,266	11,791,035
Other receivables	4	543,046	4,934,570
Current tax assets	4	15,257	494,108
Inventories, net	4, 5, 6(4)	15,214,634	15,192,274
Prepayments		1,534,955	2,879,062
Other current assets		2,164,496	20,000
Total current assets		101,335,770	106,676,034
Non-current assets			
Financial assets at fair value through profit or loss, noncurrent	4, 5, 6(2), 12(7)	3,804,024	-
Financial assets at fair value through other comprehensive income, noncurrent	4, 5, 6(5), 12(7)	11,131,667	-
Available-for-sale financial assets, noncurrent	4, 5, 6(6), 7, 12(7)	-	13,715,193
Financial assets measured at cost, noncurrent	4, 6(7)	-	459,591
Investments accounted for under the equity method	4, 6(8), 7	68,746,586	62,866,998
Property, plant and equipment	4, 5, 6(9), 7	101,115,727	127,101,974
Intangible assets	4, 6(10), 7	2,886,159	3,459,829
Deferred tax assets	4, 5, 6(24)	5,694,439	5,420,673
Prepayment for equipment		212,657	280,109
Refundable deposits	8	2,553,055	1,682,488
Other noncurrent assets-others		1,707,136	331,578
Total non-current assets		197,851,450	215,318,433
Total assets		$ 299,187,220	$ 321,994,467

(continued)

English Translation of Parent Company Only Financial Statements Originally Issued in Chinese
UNITED MICROELECTRONICS CORPORATION
PARENT COMPANY ONLY BALANCE SHEETS
December 31, 2018 and 2017
(Expressed in Thousands of New Taiwan Dollars)

Liabilities and Equity	Notes	As of December 31, 2018	As of December 31, 2017
Current liabilities			
Short-term loans	6(11), 6(26)	$ 1,384,650	$ 7,308,350
Contract liabilities, current	6(19)	447,702	-
Accounts payable		5,745,166	5,252,062
Other payables	7	10,621,434	11,178,630
Payables on equipment		2,939,455	2,510,075
Current tax liabilities	4	1,326,250	3,326,163
Current portion of long-term liabilities	4, 6(12), 6(13), 6(26), 12(7)	2,832,595	25,316,126
Other current liabilities	6(15), 6(16), 6(26), 7	1,500,011	3,764,296
Total current liabilities		26,797,263	58,655,702
Non-current liabilities			
Bonds payable	4, 6(12), 6(26), 12(7)	38,878,947	23,675,861
Long-term loans	6(13), 6(26), 12(7)	666,640	300,000
Deferred tax liabilities	4, 5, 6(24)	1,473,238	1,143,045
Net defined benefit liabilities, noncurrent	4, 5, 6(14)	4,167,174	4,138,519
Guarantee deposits	6(26)	569,368	431,212
Other noncurrent liabilities-others	4, 6(15), 6(26), 9(5)	20,564,867	20,569,352
Total non-current liabilities		66,320,234	50,257,989
Total liabilities		93,117,497	108,913,691
Equity			
Capital	4, 6(17)		
Common stock		124,243,187	126,243,187
Additional paid-in capital	4, 6(12), 6(17)		
Premiums		36,278,383	36,862,383
Treasury stock transactions		1,737,113	1,753,028
The differences between the fair value of the consideration paid or received from acquiring or disposing subsidiaries and the carrying amounts of the subsidiaries		573,336	573,336
Recognition of changes in subsidiaries' ownership		39	-
Share of changes in net assets of associates and joint ventures accounted for using equity method		108,613	97,482
Employee stock options		178,401	-
Stock options		1,515,297	1,572,121
Other		8,181	-
Retained earnings	6(17)		
Legal reserve		10,865,280	9,902,407
Unappropriated earnings		50,723,263	38,163,492
Other components of equity	4		
Exchange differences on translation of foreign operations		(5,692,326)	(5,715,585)
Unrealized gains or losses on financial assets measured at fair value through other comprehensive income		(8,819,556)	-
Unrealized gains or losses on available-for-sale financial assets		-	8,347,962
Gains or losses on hedging instruments		(2,058)	-
Treasury stock	4, 6(17), 6(18)	(5,647,430)	(4,719,037)
Total equity		206,069,723	213,080,776
Total liabilities and equity		$ 299,187,220	$ 321,994,467

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, 2018 and 2017

(Expressed in Thousands of New Taiwan Dollars, Except for Earnings per Share)

		For the years ended December 31,	
	Notes	2018	2017
Operating revenues	4, 6(19), 7		
Sales revenues		$ 124,657,755	$ 126,841,507
Less: Sales returns and discounts		(1,015,210)	(1,497,471)
Net sales		123,642,545	125,344,036
Other operating revenues		9,192,057	6,835,162
Net operating revenues		132,834,602	132,179,198
Operating costs	4, 6(4), 6(14), 6(18), 6(20), 7		
Costs of goods sold		(98,265,958)	(98,660,176)
Other operating costs		(4,020,453)	(3,800,251)
Operating costs		(102,286,411)	(102,460,427)
Gross profit		30,548,191	29,718,771
Operating expenses	4, 6(14), 6(18), 6(19), 6(20), 7		
Sales and marketing expenses		(2,932,576)	(3,285,908)
General and administrative expenses		(3,475,793)	(2,847,432)
Research and development expenses		(11,133,700)	(12,135,340)
Espected credit losses		(356,435)	-
Subtotal		(17,898,504)	(18,268,680)
Net other operating income and expenses	4, 6(15), 6(21), 7	140,550	88,805
Operating income		12,790,237	11,538,896
Non-operating income and expenses			
Other income	4	944,738	685,178
Other gains and losses	4, 6(22), 7	(772,104)	783,125
Finance costs	6(22)	(824,954)	(979,485)
Share of profit or loss of subsidiaries, associates and joint ventures	4, 6(8)	(6,641,627)	(985,703)
Exchange gain, net	4,12	712,366	-
Exchange loss, net	4,12	-	(617,240)
Subtotal		(6,581,581)	(1,114,125)
Income from continuing operations before income tax		6,208,656	10,424,771
Income tax benefit (expense)	4, 5, 6(24)	864,334	(796,037)
Net income		7,072,990	9,628,734
Other comprehensive income (loss)	6(23)		
Items that will not be reclassified subsequently to profit or loss			
Remeasurements of defined benefit pension plans	4, 5, 6(14)	(55,060)	(184,186)
Unrealized gains or losses on financial assets at fair value through other comprehensive income		1,458,848	-
Gains or losses on hedging instruments which will not be reclassified subsequently to profit or loss	4	(2,572)	-
Share of other comprehensive income (loss) of subsidiaries, associates and joint ventures which will not be reclassified subsequently to profit or loss		(479,969)	1,221
Income tax related to items that will not be reclassified subsequently	4, 5, 6(24)	112,384	31,311
Items that may be reclassified subsequently to profit or loss			
Exchange differences on translation of foreign operations		1,094,614	(3,249,649)
Unrealized gains or losses on available-for-sale financial assets		-	1,304,433
Share of other comprehensive loss of subsidiaries, associates and joint ventures which may be reclassified subsequently to profit or loss		(1,062,412)	(1,959,983)
Income tax related to items that may be reclassified subsequently	4, 5, 6(24)	(11,995)	134,099
Total other comprehensive income (loss), net of tax		1,053,838	(3,922,754)
Total comprehensive income		$ 8,126,828	$ 5,705,980
Earnings per share (NTD)	4, 6(25)		
Earnings per share-basic		$ 0.58	$ 0.79
Earnings per share-diluted		$ 0.55	$ 0.74

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, 2018 and 2017

(Expressed in Thousands of New Taiwan Dollars)

		Capital		Retained Earnings		Other Components of Equity					
	Notes	Common Stock	Additional Paid-in Capital	Legal 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	Unrealized Gains or Losses on Available-for-Sale Financial Assets	Gains or Losses on Hedging Instruments	Treasury Stock	Total Equity
Balance as of January 1, 2017	6(17)	$ 126,243,187	$ 40,997,092	$ 9,070,841	$ 38,584,335	$ 63,437	$ -	$ 6,340,040	$ -	$ (4,719,037)	$ 216,579,895
Appropriation and distribution of 2016 retained earnings	6(17)										
Legal reserve		-	-	831,566	(831,566)	-	-	-	-	-	-
Cash dividends		-	-	-	(6,112,159)	-	-	-	-	-	(6,112,159)
Net income for the year ended December 31, 2017	6(17)	-	-	-	9,628,734	-	-	-	-	-	9,628,734
Other comprehensive income (loss), net of tax for the year ended December 31, 2017	6(23)	-	-	-	(151,654)	(5,779,022)	-	2,007,922	-	-	(3,922,754)
Total comprehensive income (loss)		-	-	-	9,477,080	(5,779,022)	-	2,007,922	-	-	5,705,980
Share of changes in net assets of associates and joint ventures accounted for using equity method		-	(12,732)	-	-	-	-	-	-	-	(12,732)
The differences between the fair value of the consideration paid or received from acquiring or disposing subsidiaries and the carrying amounts of the subsidiaries	4, 6(17)	-	(134,050)	-	-	-	-	-	-	-	(134,050)
Changes in subsidiaries' ownership	4, 6(17)	-	-	-	(909,241)	-	-	-	-	-	(909,241)
Adjustments for dividends subsidiaries received from parent company		-	8,040	-	-	-	-	-	-	-	8,040
Others		-	-	-	(2,044,957)	-	-	-	-	-	(2,044,957)
Balance as of December 31, 2017	6(17)	126,243,187	40,858,350	9,902,407	38,163,492	(5,715,585)	-	8,347,962	-	(4,719,037)	213,080,776
Impact of retroactive applications	3	-	-	-	17,969,706	3,052	(9,867,013)	(8,347,962)	-	-	(242,217)
Adjusted balance as of January 1, 2018		126,243,187	40,858,350	9,902,407	56,133,198	(5,712,533)	(9,867,013)	-	-	(4,719,037)	212,838,559
Appropriation and distribution of 2017 retained earnings	6(17)										
Legal reserve		-	-	962,873	(962,873)	-	-	-	-	-	-
Cash dividends		-	-	-	(8,557,023)	-	-	-	-	-	(8,557,023)
Net income for the year ended December 31, 2018	6(17)	-	-	-	7,072,990	-	-	-	-	-	7,072,990
Other comprehensive income (loss), net of tax for the year ended December 31, 2018	6(23)	-	-	-	(22,341)	20,207	1,058,030	-	(2,058)	-	1,053,838
Total comprehensive income (loss)		-	-	-	7,050,649	20,207	1,058,030	-	(2,058)	-	8,126,828
Share-based payment transaction	4, 6(18)	-	696,226	-	-	-	-	-	-	2,203,443	2,899,669
Treasury stock acquired	4, 6(17)	-	-	-	-	-	-	-	-	(6,261,018)	(6,261,018)
Treasury stock cancelled	4, 6(17)	(2,000,000)	(1,129,182)	-	-	-	-	-	-	3,129,182	-
Share of changes in net assets of associates and joint ventures accounted for using equity method		-	11,131	-	10,573	-	(10,573)	-	-	-	11,131
Changes in subsidiaries' ownership	4	-	39	-	(475,311)	-	-	-	-	-	(475,272)
Adjustments for dividends subsidiaries received from parent company		-	11,442	-	-	-	-	-	-	-	11,442
Others		-	(48,643)	-	(2,475,950)	-	-	-	-	-	(2,524,593)
Balance as of December 31, 2018	6(17)	$ 124,243,187	$ 40,399,363	$ 10,865,280	$ 50,723,263	$ (5,692,326)	$ (8,819,556)	$ -	$ (2,058)	$ (5,647,430)	$ 206,069,723

The accompanying notes are an integral part of the parent company 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, 2018 and 2017
(Expressed in Thousands of New Taiwan Dollars)

	For the years ended December 31,	
	2018	2017
Cash flows from operating activities:		
Net income before tax	$ 6,208,656	$ 10,424,771
Adjustments to reconcile net income before tax to net cash provided by operating activities:		
Depreciation	36,634,963	41,613,009
Amortization	1,894,471	1,960,307
Expected credit losses	356,435	-
Bad debt reversal	-	(2,181)
Net loss (gain) of financial assets and liabilities at fair value through profit or loss	896,806	(610,524)
Interest expense	763,080	936,528
Interest income	(422,239)	(232,678)
Dividend income	(522,499)	(452,500)
Share-based payment	695,669	-
Share of loss of subsidiaries, associates and joint ventures	6,641,627	985,703
Gain on disposal of property, plant and equipment	(168,849)	(128,668)
Gain on disposal of other assets	-	(6,601)
Gain on disposal of investments	-	(47,242)
Exchange gain on financial assets and liabilities	(170,206)	(611,234)
Amortization of deferred income	(1,132,898)	(941,984)
Income and expense adjustments	45,466,360	42,461,935
Changes in operating assets and liabilities:		
Financial assets and liabilities at fair value through profit or loss	6,177	470,627
Contract assets	(354,665)	-
Notes receivable and accounts receivable	(3,288,853)	3,697,292
Other receivables	483,890	(102,499)
Inventories	(7,601)	(914,330)
Prepayments	(13,899)	(644,980)
Other current assets	(1,680,000)	(20,000)
Contract fulfillment costs	(343,898)	-
Contract liabilities	(3,170,712)	-
Accounts payable	461,121	(490,696)
Other payables	(476,828)	244,309
Other current liabilities	167,726	1,834,180
Net defined benefit liabilities	(26,405)	(13,763)
Other noncurrent liabilities-others	4,815,200	3,855,650
Cash generated from operations	48,246,269	60,802,496
Interest received	427,175	197,708
Dividend received	1,187,648	1,176,674
Interest paid	(490,768)	(547,666)
Income tax paid	(566,445)	(1,360,268)
Net cash provided by operating activities	48,803,879	60,268,944

(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, 2018 and 2017

(Expressed in Thousands of New Taiwan Dollars)

	For the years ended December 31,	
	2018	2017
Cash flows from investing activities:		
Proceeds from disposal of available-for-sale financial assets	$ -	$ 40,802
Acquisition of investments accounted for under the equity method	(17,709,460)	(14,557,510)
Increase in prepayment for investments	(132,937)	-
Proceeds from capital reduction and liquidation of investments	840,000	2,629,758
Derecognition of hedging financial assets and liabilities	(2,572)	-
Acquisition of property, plant and equipment	(10,291,299)	(18,378,148)
Proceeds from disposal of property, plant and equipment	413,519	265,643
Increase in refundable deposits	(1,537,579)	(89,242)
Decrease in refundable deposits	667,555	209,294
Increase in other receivables	(4,688,320)	(3,997,116)
Decrease in other receivables	8,916,796	-
Acquisition of intangible assets	(838,675)	(1,241,444)
Government grants related to assets acquisition	123,367	69,395
Increase in other noncurrent assets-others	(36,440)	(30,294)
Decrease in other noncurrent assets-others	-	16,010
Net cash used in investing activities	(24,276,045)	(35,062,852)
Cash flows from financing activities:		
Increase in short-term loans	6,821,325	17,853,130
Decrease in short-term loans	(12,647,575)	(17,612,790)
Proceeds from bonds issued	-	13,700,000
Bonds issuance costs	-	(15,785)
Redemption of bonds	(7,500,000)	(7,500,000)
Proceeds from long-term loans	700,000	2,900,000
Repayments of long-term loans	(474,356)	(7,371,578)
Increase in guarantee deposits	82,518	180,146
Decrease in guarantee deposits	(125,466)	(83,697)
Cash dividends	(8,557,684)	(6,103,195)
Treasury stock acquired	(6,148,273)	-
Treasury stock sold to employees	2,204,000	-
Net cash used in financing activities	(25,645,511)	(4,053,769)
Effect of exchange rate changes on cash and cash equivalents	177,045	(1,232,733)
Net (decrease) increase in cash and cash equivalents	(940,632)	19,919,590
Cash and cash equivalents at beginning of year	60,282,802	40,363,212
Cash and cash equivalents at end of year	$ 59,342,170	$ 60,282,802

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, 2018 and 2017
(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.

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 March 6, 2019.

3. NEWLY ISSUED OR REVISED STANDARDS AND INTERPRETATIONS

A. 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, 2018. Apart from the impact of the standards and interpretations which is described below, all other standards and interpretations have no material impact on the Company's financial position and performance.

(1) IFRS 9 "Financial Instruments"

IFRS 9 "Financial Instruments" (IFRS 9) replaced IAS 39 "Financial Instruments: Recognition and Measurement" (IAS 39) for annual periods beginning on or after January 1, 2018, which resulted in an impact on all three aspects of the accounting for financial instruments: classification and measurement; impairment; and hedge accounting.

(2) IFRS 15 "Revenue from Contracts with Customers" with its Amendment "Clarifications to IFRS 15 Revenue from Contracts with Customers"

The core principle of IFRS 15 "Revenue from Contracts with Customers" (IFRS 15) is that revenue is recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. IFRS 15 establishes a five-step model that will apply to revenue earned from a contract with a customer (with limited exceptions), regardless of the type of revenue transaction or the industry.

(3) The Company elected to adopt these standards using the modified retrospective method recognizing the cumulative effect of initially applying IFRS 9 and IFRS 15 at January 1, 2018, and not to restate the parent company only financial statements for the year ended December 31, 2017. The Company's parent company only financial statements for the year ended December 31, 2017 were prepared in accordance with IAS 39, IAS 18 and related interpretations issued, revised or amended.

The impact on assets, liabilities and equity at the date of initial application of IFRS 9 and IFRS 15 are as below:

IFRS 9

a. Financial assets measured at cost

The Company elected to designate certain of these financial assets as financial assets at fair value through other comprehensive income (FVOCI) and the others as financial assets at fair value through profit or loss (FVTPL) at the date of initial application. In accordance with the requirement of IFRS 9, these financial assets must be measured at fair value.

b. Available-for-sale financial assets

In accordance with the requirement of IFRS 9, the Company elected to designate equity instruments that are not held for trading as financial assets at FVOCI and classified the remaining financial assets as financial assets at FVTPL.

c. Impairment of financial assets

Under IFRS 9, impairment assessment is not required for equity instruments. Therefore, as the Company elected to classify certain equity investments as financial assets at FVOCI, the Company reclassified the related accumulated impairment loss from retained earnings to other component of equity at the date of initial application. The expected credit losses for accounts receivable or contract assets that result from transactions within the scope of IFRS 15 are evaluated by applying the simplified approach. The aforementioned impairment evaluation requirement differs from the current incurred loss model and had no material impact on the Company.

IFRS 15

Prior to adopting IFRS 15, the Company recognized revenue upon the delivery of the wafers to carriers approved by the customers, at which point in time, the title and risk of loss for the wafers were transferred to the customers. Consideration received from customers prior to the Company having transferred risks and rewards were accounted for as advance receipts as a component of other current liabilities. In accordance with the requirements of IFRS 15, the Company recognizes revenue as the Company satisfies its performance obligations to customers upon transfer of control of promised goods and services. For certain contracts that the Company recognizes revenue as it satisfies its performance obligations over time, contract assets are recognized if the Company does not have unconditional rights to the consideration. Consideration received from customers prior to the Company having satisfied its performance obligations are accounted for as contract liabilities and the associated costs incurred to fulfill the contracts are recognized on the parent company only balance sheet as contract fulfillment costs (classified under other current assets) or inventories. In accordance with the requirement of IFRS 15, allowance for sales returns and discounts are presented as refund liabilities (classified under other current liabilities), which was presented as a contra-account to accounts receivable prior to adopting IFRS 15.

The impact on assets, liabilities and equity as of January 1, 2018 were as follows:

Items	Carrying Amounts as of December 31, 2017	Adjustments Arising from Initial Application		Adjusted Carrying Amounts as of January 1, 2018	Descriptions
		IFRS 9	IFRS 15		
Contract assets, current	$-	$-	$81,399	$81,399	a.
Accounts receivable, net	10,387,316	-	504,849	10,892,165	b.
Accounts receivable-related parties, net	11,791,035	-	491,964	12,282,999	b.
Inventories, net	15,192,274	-	(73,287)	15,118,987	a.
Other current assets	20,000	-	120,799	140,799	a.
Financial assets at fair value through profit or loss, noncurrent	-	4,509,306	-	4,509,306	d.
Financial assets at fair value through other comprehensive income, noncurrent	-	9,672,819	-	9,672,819	e.
Available-for-sale financial assets, noncurrent	13,715,193	(13,715,193)	-	-	d.e.
Financial assets measured at cost, noncurrent	459,591	(459,591)	-	-	d.e.
Investments accounted for under the equity method	62,866,998	(286,914)	5,687	62,585,771	c.f.
Deferred tax assets	5,420,673	5,123	(1,490)	5,424,306	a.e.
Total effect on assets		$(274,450)	$1,129,921		

Items	Carrying Amounts as of December 31, 2017	Adjustments Arising from Initial Application		Adjusted Carrying Amounts as of January 1, 2018	Descriptions
		IFRS 9	IFRS 15		
Contract liabilities, current	$-	$-	$3,614,908	$3,614,908	a.
Current tax liabilities	3,326,163	-	1,611	3,327,774	a.
Other current liabilities	3,764,296	-	(2,525,165)	1,239,131	a.b.
Deferred tax liabilities	1,143,045	6,371	(37)	1,149,379	a.d.
Total effect on liabilities		$6,371	$1,091,317		
Retained earnings	$48,065,899	$17,930,334	$39,372	$66,035,605	a.c.d.e.f.
Other components of equity	2,632,377	(18,211,155)	(768)	(15,579,546)	a.b.c.d.e.f.
Total effect on equity		$(280,821)	$38,604		

a. Prior to adopting IFRS 15, the Company recognized revenue upon the delivery of the wafers to carriers approved by the customers, at which point in time, the title and risk of loss for the wafers are transferred to the customers. Consideration received from customers prior to the Company having satisfied its performance obligations were accounted for as advance receipts as a component of other current liabilities. After adopting IFRS 15, the Company recognizes revenue as the Company satisfies its performance obligations to customers upon transfer control of promised goods and services. For certain contracts that the Company recognizes revenue as it satisfies its performance obligations over time, contract assets are recognized if the Company does not have unconditional rights to the consideration. Consideration received from customers prior to the Company having satisfied its performance obligations are accounted for as contract liabilities and the associated costs incurred to fulfill the contracts are recognized on the parent company only balance sheet as contract fulfillment costs (classified under other current assets) or inventories. The aforementioned changes in revenue recognition resulted in an increase in current contract assets amounted to NT$81 million, a decrease in net inventories amounted to NT$73 million, an increase in other current assets amounted to NT$121 million, a decrease in deferred tax assets amounted to NT$1 million, an increase in current contract liabilities amounted to NT$3,615 million, an increase in current tax liabilities amounted to NT$2 million, a decrease in other current liabilities amounted to NT$3,522 million, a decrease in deferred tax liabilities amounted to NT$37 thousand, an increase in retained earnings amounted to NT$34 million and a decrease in other components of equity amounted to NT$0.1 million.

b. After adopting IFRS 15, allowance for sales returns and discounts are presented as refund liabilities (classified under other current liabilities), which was presented as a contra-account to accounts receivable prior to adopting IFRS 15. The aforementioned change in the presentation of the Company's allowance for sales returns and discounts led to an increase in net accounts receivable amounted to NT505 million, an increase in net accounts receivable-related parties amounted to NT$492 million, an increase in other current liabilities amounted to NT$997 million and a decrease in other components of equity amounted to NT$0.5 million.

c. With the adoption of IFRS 15 by subsidiaries and associates accounted for using equity method, the corresponding adjustments made by the Company resulting in an increase in investments accounted for using equity method amounted to NT$6 million, an increase in retained earnings amounted to NT$6 million and a decrease in other components of equity amounted to NT$0.1 million.

d. In accordance with IFRS 9, the Company reclassified certain noncurrent available-for-sale financial assets and certain noncurrent financial assets measured at cost as noncurrent financial assets at FVTPL, amounting to NT$4,276 million and NT$196 million, respectively. In addition, the Company remeasured the fair value of financial assets and resulted in an increase of NT$37 million, an increase in deferred tax liabilities amounted to NT$6 million, and an increase in retained earnings amounted to NT$31 million. At the date of initial application, the Company reclassified other component of equity to retained earnings, resulting in a decrease in other component of equity and an increase in retained earnings amounting to NT$3,081 million. After adjustment, the carrying amounts of noncurrent financial assets at FVTPL resulted in an increase of NT$4,509 million as of January 1, 2018.

e. In accordance with IFRS 9, the Company elected to designate its investments in equity instruments previously classified as available-for-sale amounted to NT$9,439 million and noncurrent financial assets measured at cost amounted to NT$263 million reclassified as noncurrent financial assets at FVOCI, because these investments are not held for trading. In addition, the Company remeasured the fair value of financial assets and resulted in a decrease of NT$30 million, an increase in deferred tax assets amounted to NT$5 million, and a decrease in other components of equity amounted to NT$25 million. At the date of initial application, the Company reclassified retained earnings to other component of equity, resulting in an increase in retained earnings and a decrease in other component of equity amounting to NT$12,899 million. After adjustment, the carrying amounts of noncurrent financial assets at FVOCI resulted in an increase of NT$9,673 million as of January 1, 2018.

f. With the adoption of IFRS 9 by subsidiaries and associates accounted for using equity method, the corresponding adjustments made by the Company resulting in a decrease in investments accounted for using equity method amounted to NT$287 million, an increase in retained earnings amounted to NT$1,919 million and a decrease in other components of equity amounted to NT$2,206 million.

The following table shows the amount affected in the current period by the application of IFRS 15 as compared to IAS 18:

	As of December 31, 2018		
Items	Amounts in accordance with IFRS 15	Effect	Amounts in accordance with accounting policies for prior periods
Contract assets, current	$81,187	$(81,187)	$-
Accounts receivable, net	13,583,599	(819,416)	12,764,183
Accounts receivable-related parties, net	8,359,266	(340,159)	8,019,107
Inventories, net	15,214,634	83,237	15,297,871
Other current assets	2,707,542	(161,682)	2,545,860
Investments accounted for under the equity method	68,746,586	(3,420)	68,743,166
Deferred tax assets	5,694,439	(69)	5,694,370
Total effect on assets		$(1,322,696)	
Contract liabilities, current	$447,702	$(447,702)	$-
Other current liabilities	1,500,011	(882,000)	618,011
Deferred tax liabilities	1,473,238	5,286	1,478,524
Total effect on liabilities		$(1,324,416)	
Additional paid-in capital	$40,399,363	$188	$40,399,551
Retained earnings	61,588,543	(2,490)	61,586,053
Other components of equity	(14,513,940)	4,022	(14,509,918)
Total effect on equity		$1,720	

	For the year ended December 31, 2018		
Items	Amounts in accordance with IFRS 15	Effect	Amounts in accordance with accounting policies for prior periods
Operating revenue	$132,834,602	$73,883	$132,908,485
Operating costs	(102,286,411)	67,046	(102,219,365)
Operating expenses	(17,898,504)	(97,408)	(17,995,912)
Non-operating income and expenses	(6,581,581)	1,818	(6,579,763)
Income tax benefit (expense)	864,334	(8,457)	855,877
Total effect on profit and loss		$36,882	

B. Standards issued by International Accounting Standards Board (IASB) which are endorsed by FSC, but not yet adopted by the Company are listed below:

No.	The projects of Standards or Interpretations	Effective for annual periods beginning on or after
IFRS 16	Leases	January 1, 2019
IFRIC 23	Uncertainty Over Income Tax Treatments	January 1, 2019
IAS 28	Long-term Interests in Associates and Joint Ventures	January 1, 2019
IFRS 9	Financial Instruments – Prepayment Features with Negative Compensation	January 1, 2019
	Improvements to International Financial Reporting Standards (2015 - 2017 cycle)	
IFRS 3	Business Combinations	January 1, 2019
IFRS 11	Joint Arrangements	January 1, 2019
IAS 12	Income Taxes	January 1, 2019
IAS 23	Borrowing Costs	January 1, 2019
IAS 19	Employee Benefits	January 1, 2019

The potential effects of adopting the standards or interpretations issued by IASB and endorsed by FSC on the Company's financial statements in future periods are summarized as below:

(4) IFRS 16 "Leases" ("IFRS 16")
The new standard requires lessees to account for all leases under one single accounting model (except for short-term or low-value asset lease exemptions), which is for lessees to recognize right-of-use assets and lease liabilities on the parent company only balance sheet and the depreciation expense and interest expense associated with those leases in the parent company only statements of comprehensive income. Lessors' classification remains unchanged as operating or finance leases, but additional disclosure information is required.

(5) IFRIC 23 "Uncertainty Over Income Tax Treatments"
The Interpretation clarifies application of recognition and measurement requirements in IAS 12 "Income Taxes" when there is uncertainty over income tax treatments.

(6) IAS 28"Investment in Associates and Joint Ventures" (Amendment)
The amendment clarifies that an entity applies IFRS 9 to long-term interests in an associate or joint venture that form part of the net investment in the associate or joint venture before it applies IAS 28 "Investments in Associates and Joint Ventures" (IAS 28), and in applying IFRS 9, does not take account of any adjustments that arise from applying IAS 28.

(7) IFRS 9 "Financial Instruments" (Amendment)
The amendment allows financial assets with prepayment features that permit or require a party to a contract either to pay or receive reasonable compensation for the early termination of the contract, to be measured at amortised cost or at fair value through other comprehensive income.

(8) IAS 12 "Income Taxes"
The amendments clarify that an entity shall recognize the income tax consequences of dividends in profit or loss, other comprehensive income or equity according to where the entity originally recognized those past transactions or events.

(9) IAS 19 "Employee Benefits" (Amendment)
The amendments clarify that when a change in a defined benefit plan is made (such as amendment, curtailment or settlement, etc.), the entity should use the updated assumptions to remeasure its net defined benefit liability or asset.

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, 2019. Apart from item (4) explained below, the remaining standards and interpretations have no material impact on the Company's financial position and performance.

(10) IFRS 16
The Company elects not to reassess whether a contract is, or contains, a lease at the date of initial application (January 1, 2019) in accordance with the transition provision in IFRS 16. The Company is permitted to apply IFRS 16 to contracts that were previously identified as leases applying IAS 17 "Leases" and IFRIC 4 "Determining whether an Arrangement contains a Lease". The Company elects not to restate comparative information and applies the standard retrospectively only to contracts that are not completed at the date of initial application in accordance with the transition provision in IFRS 16. Instead, the Company will recognize the cumulative effect of initially applying IFRS 16 on January 1, 2019.

a. For leases that were classified as operating leases applying IAS 17, the Company expects to measure and recognize those leases as lease liability at the present value of the remaining lease payments, discounted using the lessee's incremental borrowing rate on January 1, 2019. On a lease-by-lease basis, the right-of-use asset is measured and recognized at an amount equal to the lease liability (adjusted by the amount of any prepaid lease payments). The Company assesses the cumulative effect at the date of initial application is primarily consisted of a decrease in investments accounted for under the equity method amounting to NT$22 million; an increase in right-of-use assets amounting to NT$3,535 million; a decrease in other payables amounting to NT$40 million; an increase in lease liabilities amounting to NT$3,578 million; a decrease in additional paid-in capital-other amounting to NT$10 million; and a decrease in other components of equity amounting to NT$14 million.

b. The additional disclosures of lessee and lessor required by IFRS 16 will be disclosed in the relevant notes.

C. Standards issued by IASB but not yet endorsed by FSC (the effective dates are to be determined by FSC) are listed below:

No.	The projects of Standards or Interpretations	Effective for annual periods beginning on or after
IFRS 10 and IAS 28	Sale or Contribution of Assets between an Investor and its Associate or Joint Venture	To be determined by IASB
IFRS 17	Insurance Contracts	January 1, 2021
Amendments to IFRS 3	Definition of a Business	January 1, 2020
Amendments to IAS 1 and 8	Definition of Material	January 1, 2020

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:

(11) 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 (Amendment)

The amendments address the inconsistency between the requirements in IFRS 10 "Consolidated Financial Statements" (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. The effective date of this amendment has been deferred indefinitely, but early adoption is allowed.

(12) IFRS 3 "Business Combinations" - Definition of a Business (Amendment)

The amendments clarify the definition of a business in IFRS 3 Business Combinations. The amendments are intended to assist entities to determine whether a transaction should be accounted for as a business combination or as an asset acquisition.

IFRS 3 continues to adopt a market participant's perspective to determine whether an acquired set of activities and assets is a business. The amendments clarify the minimum requirements for a business; add guidance to help entities assess whether an acquired process is substantive; and narrow the definitions of a business and of outputs; etc.

(13) IAS 1 "Presentation of Financial Statements" and IAS 8 "Accounting Policies, Changes in Accounting Estimates and Errors" - Definition of Material (Amendment)

The main amendment is to clarify a new definition of material. It states that "information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements, which provide financial information about a specific reporting entity." The amendments clarify that materiality will depend on the nature or magnitude of information. An entity will need to assess whether the information, either individually or in combination with other information, is material in the context of the financial statements. A misstatement of information is material if it could reasonably be expected to influence decisions made by the primary users.

The Company is currently evaluating the potential impact of the aforementioned standards and interpretations listed (11) ~ (13) 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).

(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 at 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 (before January 1, 2018: IAS 39) 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 (EIR) 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 expected credit losses. 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 expected credit losses.

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 EIR method after initial recognition. Gains and losses are recognized in profit or loss when the liabilities are derecognized as well as through the EIR 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.

The summary of significant accounting policies applying in 2017 is as follows:

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 IAS 39 and the Regulations, financial assets of the Company are classified as financial assets at fair value through profit or loss, available-for-sale financial assets, held-to-maturity financial assets and notes, accounts and other receivables.

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 carried at fair value through profit or loss are initially recognized at fair value, and transaction costs are expensed in the income statement.

Financial Assets

a. Classification and subsequent measurement

i. Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss are comprised of financial assets held for trading and financial assets designated upon initial recognition at fair value through profit or loss.

Financial assets acquired for the purpose of selling or repurchasing in the near term, and derivative financial instruments that are not designated as hedging instruments in hedge accounting are classified as financial assets at fair value through profit or loss. Financial assets at fair value through profit or loss are measured at fair value with changes in fair value recognized in profit or loss.

ii. Available-for-sale financial assets

Available-for-sale investments are those non-derivative financial assets that are designated as available-for-sale or are not classified as financial assets at fair value through profit or loss, held-to-maturity financial assets, or loans and receivables. Available-for-sale financial investments are subsequently measured at fair value. Other than impairment losses which are recognized in profit or loss, subsequent measurement of available-for-sale equity instrument financial assets are recognized in other comprehensive income until the investment is derecognized, at which time the cumulative gain or loss is recognized in profit or loss.

If equity instrument investments do not have quoted prices in an active market and their fair value cannot be reliably measured, then they are classified as financial assets measured at cost on the balance sheet.

iii. Held-to-maturity financial assets

Non-derivative financial assets with fixed or determinable payments and fixed maturities are classified as held-to-maturity when the Company has the positive intention and ability to hold them to maturity.

After initial measurement held-to-maturity financial assets are measured at amortized cost using the effective interest rate (EIR) method, less impairment. Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or transaction costs. The EIR method amortization and impairment, if any, is recognized in profit or loss.

iv. Notes, accounts and other receivables

Notes and accounts receivable are creditors' rights as a result of sales of goods or services. Other receivables are any receivable not classified as notes and accounts receivable. Notes, accounts and other receivables are initially measured and recognized at their fair values and subsequently measured at amortized cost using the EIR method, less impairment losses. If the effect of discounting is immaterial, the short term notes, accounts and other receivables are measured at their nominal amount.

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.

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.

c. Impairment policy

The carrying amount of a financial asset is reduced as a result of impairment, except for accounts receivable for which the carrying amount is reduced through use of an allowance account. When an account receivable is deemed to be uncollectible, it is written off from the allowance account.

i. Notes, accounts and other receivables

The Company first assesses at each reporting date whether objective evidence of impairment exists for notes, accounts and other receivables that are individually significant. If there is objective evidence that an impairment loss has occurred, the amount of impairment loss is assessed individually. For notes, accounts and other receivables other than those mentioned above, the Company groups those assets with similar credit risk characteristics and collectively assesses them for impairment. If, in a subsequent period, the amount of the impairment loss decreases, and the decrease can be related objectively to an event occurring after the impairment was recognized, the previously recognized impairment loss is reversed and recognized through profit or loss. The reversal shall not result in a carrying amount of notes, accounts and other receivables that exceeds what the amortized cost would have been had the impairment not been recognized at the date the impairment is reversed.

ii. Other financial assets

The Company assesses, at each reporting date, whether there is objective evidence that a financial asset or a group of financial assets is impaired. A financial asset or a group of financial assets is deemed to be impaired if, and only if, there is objective evidence of impairment as a result of one or more loss events that has occurred since the initial recognition of the asset (an incurred "loss event") and that loss event has an impact on the estimated future cash flows of the individual financial asset or a group of financial assets.

For the financial assets carried at amortized cost, the amount of the impairment loss is measured as the difference between the carrying amount and the present value of estimated future cash flows, discounted at the original effective interest rate. For equity investments classified as available-for-sale, objective evidence of an impairment would include a significant or prolonged decline in the fair value of the investment below its cost. When there is objective evidence of an impairment for available-for-sale equity securities, the full amount of the losses previously recognized in other comprehensive income is reclassified to profit or loss. Impairment losses recognized on equity investments cannot be reversed through profit or loss. Any subsequent increases in their fair value after impairment are recognized in other comprehensive income.

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. Gains or losses on the subsequent measurement including interest paid are recognized in profit or loss.

ii. Financial liabilities carried at amortized cost

Financial liabilities measured at amortized cost include interest bearing loans and borrowings that are subsequently measured using the EIR method after initial recognition. Gains and losses are recognized in profit or loss when the liabilities are derecognized as well as through the EIR 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) Cash flow hedges

The Company manages exposures arising from foreign currency exchange risk. With the adoption of IFRS 9 on January 1, 2018, 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):

(i) the cumulative gain or loss on the hedging instrument from inception of the hedge; and
(ii) 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.

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 and loss. 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

(12) 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. 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 EIR 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.

(13) 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 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.

(14) 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 EIR 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 (before January 1, 2018: IAS 39).

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.

(15) 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.

(16) 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.

(17) Treasury Stock

The Company’s own equity instruments repurchased (treasury shares) are recognized at repurchase cost and deducted from equity. Any difference between the carrying amount and the consideration is recognized in equity.

(18) Share-Based Payment Transactions

The cost of equity-settled transactions between the Company and its employees is measured at the fair value using an appropriate pricing model by reference to the market price of the equity instruments on the grant date.

The cost of equity-settled transactions is recognized, together with a corresponding increase in equity, over the periods in which the performance and/or service conditions are being fulfilled. The cumulative expense recognized for equity-settled transactions at each reporting 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 charge to profit or loss for a period represents the movement in cumulative expense recognized between the beginning and the end of that period.

No expense will be recognized for awards that do not ultimately vest, except for equity-settled transactions for which vesting is conditional upon a market or non-vesting condition. These are treated as vested irrespective of whether 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.

(19) Revenue Recognition

Revenue from Contracts with Customers

The Company recognizes revenue from contracts with customers by applying the following steps of IFRS 15:

(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 controls 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 EIR 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.

The summary of significant accounting policies applying in 2017 is as follows:

Revenue is recognized to the extent that it is probable that the economic benefits will flow to the Company and the revenue can be reliably measured. Revenue is measured at the fair value of the consideration received or receivable. The specific criteria described below must also be met before revenue is recognized.

Sales revenue

The Company manufactures semiconductors for creditworthy customers based on their design specifications, pursuant to manufacturing agreements and/or purchase orders at contractual prices. The Company ships wafers mainly under the trade term, Free Carrier (FCA), through which the title and risk of loss for the wafers are transferred to the customers upon delivery to carriers approved by the customers. Sales revenue is recognized at this point, having also fulfilled all of the following criteria pursuant to IAS 18, paragraph 14:

i. the significant risks and rewards of ownership of the goods have been transferred to the customer;
ii. neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold have been retained;
iii. the amount of revenue can be measured reliably;
iv. it is probable that the economic benefits associated with the transaction will flow to the entity; and
v. the costs incurred or to be incurred in respect of the transaction can be measured reliably.

Sales revenue is measured at the fair value of the consideration received or receivable, net of sales returns and discounts, which are estimated based on customer complaints, historical experience and other known factors. Sales returns and discounts are recorded in the same period in which sales are made.

Interest income

For financial assets measured at amortized cost (including held-to-maturity financial assets) and financial assets at fair value through profit or loss, interest income is recorded using the EIR and recognized in profit or loss.

(20) 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.

(21) 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 estimation 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.

(1) The Fair Value of Level 3 Financial Instruments

Where the fair values of the level 3 financial assets and financial liabilities recorded on the balance sheet cannot be derived from active markets, they are determined by the application of an appropriate valuation method including the income approach and market approach. The valuation of these financial assets involves significant judgment in the preparation of cash flow forecasts, a selection of comparable companies or equity transaction prices, as well as the application of assumptions such as discount rates, discounts for lack of marketability, and 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(14).

(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(24) for more details on unrecognized deferred tax assets.

6. CONTENTS OF SIGNIFICANT ACCOUNTS

(1) Cash and Cash Equivalents

	As of December 31, 2018	As of December 31, 2017
Cash on hand	$4,734	$2,959
Checking and savings accounts	10,439,872	7,498,832
Time deposits	40,761,747	45,025,868
Repurchase agreements collateralized by government and corporate bonds	8,135,817	7,755,143
Total	$59,342,170	$60,282,802

(2) Financial Assets at Fair Value through Profit or Loss

	As of December 31, 2018	As of December 31, 2017 (Note)
Financial assets mandatorily measured at fair value through profit or loss		
Common stocks	$4,089,905	
Preferred stocks	26,700	
Funds	180,900	
Forward contracts	3,561	
Total	$4,301,066	
Financial assets held for trading		
Common stocks		$434,630
Preferred stocks		228,508
Option		31,605
Total		$694,743
Current	$497,042	$694,743
Noncurrent	3,804,024	-
Total	$4,301,066	$694,743

On June 29, 2018, the Board of Directors of the Company resolved to exercise the call option of a joint venture agreement between FUJITSU SEMICONDUCTOR LIMITED (FSL) and the Company. The transaction was approved by the Taiwan authorities on September 26, 2018. Upon obtaining other relevant authority's approval of the investment application, the Company anticipates to invest NT$15.3 billion for acquiring remaining shares of MIE FUJITSU SEMICONDUCTOR LIMITED (MIFS), representing ownership interest of 84.1% and making MIFS a wholly-owned subsidiary of the Company. The change of the fair value for the call option is recorded in profit or loss.

Note: The Company adopted IFRS 9 on January 1, 2018. The Company elected not to restate prior periods in accordance with the transition provision in IFRS 9. Please refer to Note 6(6) and Note 6(7) for available-for-sale financial assets, non-current and financial assets measured at cost, non-current, respectively as of December 31, 2017.

(3) Accounts Receivable, Net

	As of December 31, 2018	As of December 31, 2017
Accounts receivable	$13,583,599	$10,892,164
Less: allowance for sales returns and discounts	-	(504,848)
Net	$13,583,599	$10,387,316

Aging analysis of accounts receivable, net:

	As of December 31, 2018	As of December 31, 2017
Neither past due nor impaired	$9,557,185	$7,167,090
Past due but not impaired:		
≤ 30 days	2,471,790	2,405,102
31 to 60 days	433,672	308,139
61 to 90 days	511,706	78,969
91 to 120 days	359,592	114,100
≥ 121 days	249,654	313,916
Subtotal	4,026,414	3,220,226
Total	$13,583,599	$10,387,316

The collection periods for third party domestic sales and third party overseas sales were month-end 30~60 days and net 30~120 days, respectively.

After adopting IFRS 9, an impairment analysis is performed at each reporting date to measure ECLs of accounts receivable. For receivable past due within 60 days, including not past due, the Company estimates a provision rate to calculate ECLs. A provision rate is determined based on the Company's historical credit loss experience and customers' current financial condition, adjusted for forward-looking factors, such as customers' economic environment. For the receivable past due over 60 days, the Company applies the aforementioned provision rate and also individually assesses whether to recognize additional expected credit losses by considering customer's operating situation and debt-paying ability.

(4) Inventories, Net

	As of December 31,	
	2018	2017
Raw materials	$3,182,267	$2,054,878
Supplies and spare parts	1,766,380	1,501,564
Work in process	9,131,201	10,390,944
Finished goods	1,134,786	1,244,888
Total	$15,214,634	$15,192,274

a. For the years ended December 31, 2018 and 2017, the Company recognized NT$98,266 million and NT$98,660 million, respectively, in operating cost, of which NT$503 million and NT$1,758 million were 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,	
	2018	2017 (Note)
Equity instruments		
Common stocks	$10,947,641	
Preferred stocks	184,026	
Total	$11,131,667	

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. Dividends from equity instruments designated as fair value through other comprehensive income were NT$249 million for the year ended December 31, 2018. All the amounts are related to investments held at the end of the reporting period.

Note: The Company adopted IFRS 9 on January 1, 2018. The Company elected not to restate prior periods in accordance with the transition provision in IFRS 9. Please refer to Note 6(6) and Note 6(7) for available-for-sale financial assets, non-current and financial assets measured at cost, non-current , respectively as of December 31, 2017.

(6) Available-For-Sale Financial Assets, Non-Current

	As of December 31, 2017
Common stocks	$13,715,193

(7) Financial Assets Measured at Cost, Non-Current

	As of December 31, 2017
Common stocks	$196,071
Preferred stocks	263,520
Total	$459,591

Since these financial assets mostly consisted of non-publicly traded stocks, for which the fair values could not be reliably measured due to lack of sufficient financial information available, the Company measured these financial assets at cost.

(8) Investments Accounted For Under the Equity Method

a. Details of investments accounted for under the equity method are as follows:

	As of December 31,			
	2018		2017	
Investee companies	Amount	Percentage of ownership or voting rights	Amount	Percentage of ownership or voting rights
Listed company				
Investments in associates				
FARADAY TECHNOLOGY CORP. (FARADAY) (Note A)	$1,477,167	13.78	$1,669,693	13.78

Investee companies	2018 Amount	2018 Percentage of ownership or voting rights	2017 Amount	2017 Percentage of ownership or voting rights
Unlisted companies				
Investments in subsidiaries				
UMC GROUP (USA)	$1,712,388	100.00	$1,610,560	100.00
UNITED MICROELECTRONICS (EUROPE) B.V.	142,532	100.00	135,661	100.00
UMC CAPITAL CORP.	3,496,187	100.00	3,668,267	100.00
GREEN EARTH LIMITED	17,150,726	100.00	9,243,073	100.00
TLC CAPITAL CO., LTD.	4,246,675	100.00	5,443,387	100.00
UMC INVESTMENT (SAMOA) LIMITED	42,908	100.00	41,701	100.00
FORTUNE VENTURE CAPITAL CORP. (FORTUNE) (Note B, C)	5,358,068	100.00	4,627,975	100.00
UMC GROUP JAPAN	45,187	100.00	223,673	100.00
UMC KOREA CO., LTD.	20,688	100.00	19,753	100.00
OMNI GLOBAL LIMITED	572,512	100.00	518,019	100.00
SINO PARAGON LIMITED	120,901	100.00	106,459	100.00
BEST ELITE INTERNATIONAL LIMITED	23,090,363	100.00	21,171,514	96.66
WAVETEK MICROELECTRONICS CORPORATION	275,854	77.74	466,588	77.74
NEXPOWER TECHNOLOGY CORP.	53,958	47.75	51,378	44.32
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD. (Note D)	2,786,893	-	4,251,583	-
UMC NEW BUSINESS INVESTMENT CORP. (NBI) (Note B)	-	-	1,198,836	100.00
Subtotal	59,115,840		52,778,427	
Investments in associates				
MTIC HOLDINGS PTE. LTD.	3,026	45.44	50,743	45.44
UNITECH CAPITAL INC.	568,005	42.00	732,267	42.00
TRIKNIGHT CAPITAL CORPORATION	1,520,575	40.00	894,809	40.00
HSUN CHIEH INVESTMENT CO., LTD.	3,419,430	36.49	3,930,434	36.49
YANN YUAN INVESTMENT CO., LTD.	2,642,543	30.87	2,810,625	30.87
Subtotal	8,153,579		8,418,878	
Total	$68,746,586		$62,866,998	

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: As of July 1, 2018, NBI was merged with FORTUNE and FORTUNE is the surviving company.

Note C: As of December 31, 2018 and 2017, the costs of investment were NT$5,478 million and NT$4,748 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$5,358 million and NT$4,628 million as of December 31, 2018 and 2017, respectively.

Note D: Please refer to Note 9(5).

The carrying amount of investments accounted for using the equity method for which there are published price quotations amounted to NT$1,477 million and NT$1,670 million, as of December 31, 2018 and December 31, 2017, respectively. The fair value of these investments were NT$1,448 million and NT$1,983 million, as of December 31, 2018 and December 30, 2017, 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$(749) million and NT$301 million for the years ended December 31, 2018 and 2017, respectively. Share of other comprehensive income (loss) of these subsidiaries, associates and joint ventures amounted to NT$(230) million and NT$1,314 million for the years ended December 31, 2018 and 2017, respectively. The balances of investments accounted for under the equity method were NT$8,151 million and NT$8,368 million as of December 31, 2018 and 2017, respectively.

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, 2018 and 2017 were NT$27 million and NT$52 million, respectively, which were not included in the following table.

The aggregate amount of the Company's share of its associates that are accounted for using the equity method was as follows:

	For the years ended December 31, 2018	For the years ended December 31, 2017
Income (loss) from continuing operations	$(617,128)	$220,321
Income (loss) from discontinued operations after income tax	-	80,248
Other comprehensive income (loss)	(472,059)	1,323,839
Total comprehensive income (loss)	$(1,089,187)	$1,624,408

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, 2018 and 2017. Another associate, YANN YUAN INVESTMENT CO., LTD., held 172 million shares of the Company's stock as of December 31, 2018 and 2017.

(9) Property, Plant and Equipment

	As of December 31, 2018	As of December 31, 2017
Land	$1,314,402	$1,314,402
Buildings	11,776,196	12,681,044
Machinery and equipment	82,491,511	106,636,891
Transportation equipment	13,960	11,811
Furniture and fixtures	1,246,839	1,336,934
Construction in progress and equipment awaiting inspection	4,272,819	5,120,892
Net	$101,115,727	$127,101,974

Cost:

	Land	Buildings	Machinery and equipment	Transportation equipment	Furniture and fixtures	Construction in progress and equipment awaiting inspection	Total
As of January 1, 2018	$1,314,402	$27,665,148	$737,442,185	$48,423	$6,371,346	$5,120,892	$777,962,396
Additions	-	-	-	-	-	9,861,161	9,861,161
Disposals	-	(64,878)	(2,624,143)	(7,515)	(7,625)	-	(2,704,161)
Transfers and reclassifications	-	244,298	10,749,582	5,687	278,107	(10,713,653)	564,021
Exchange effect	-	83,767	4,306,514	311	12,366	4,419	4,407,377
As of December 31, 2018	$1,314,402	$27,928,335	$749,874,138	$46,906	$6,654,194	$4,272,819	$790,090,794

	Land	Buildings	Machinery and equipment	Transportation equipment	Furniture and fixtures	Construction in progress and equipment awaiting inspection	Total
As of January 1, 2017	$1,314,402	$27,702,979	$724,337,629	$51,149	$6,083,675	$20,107,524	$779,597,358
Additions	-	-	-	-	-	11,860,189	11,860,189
Disposals	-	-	(3,084,338)	(5,774)	(32,022)	-	(3,122,134)
Transfers and reclassifications	-	182,124	27,102,148	3,813	349,637	(26,697,826)	939,896
Exchange effect	-	(219,955)	(10,913,254)	(765)	(29,944)	(148,995)	(11,312,913)
As of December 31, 2017	$1,314,402	$27,665,148	$737,442,185	$48,423	$6,371,346	$5,120,892	$777,962,396

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, 2018	$-	$14,984,104	$630,805,294	$36,612	$5,034,412	$-	$650,860,422
Depreciation	-	1,184,606	35,076,853	3,208	370,296	-	36,634,963
Disposals	-	(57,812)	(2,340,752)	(7,193)	(7,598)	-	(2,413,355)
Exchange effect	-	41,241	3,841,232	319	10,245	-	3,893,037
As of December 31, 2018	$-	$16,152,139	$667,382,627	$32,946	$5,407,355	$-	$688,975,067

	Land	Buildings	Machinery and equipment	Transportation equipment	Furniture and fixtures	Construction in progress and equipment awaiting inspection	Total
As of January 1, 2017	$-	$13,921,719	$603,390,634	$38,328	$4,673,546	$-	$622,024,227
Depreciation	-	1,160,510	40,030,113	3,172	419,214	-	41,613,009
Disposals	-	-	(3,056,984)	(5,774)	(32,022)	-	(3,094,780)
Transfers and reclassifications	-	-	(450)	1,587	(1,137)	-	-
Exchange effect	-	(98,125)	(9,558,019)	(701)	(25,189)	-	(9,682,034)
As of December 31, 2017	$-	$14,984,104	$630,805,294	$36,612	$5,034,412	$-	$650,860,422

Property, plant and equipment were not pledged as collateral.

(10) Intangible Assets

	As of December 31, 2018	As of December 31, 2017
Software	$350,662	$227,789
Patents and technology license fees	1,751,078	1,972,992
Others	784,419	1,259,048
Net	$2,886,159	$3,459,829

Cost:

	Software	Patents and technology license fees	Others	Total
As of January 1, 2018	$731,316	$4,521,199	$3,565,606	$8,818,121
Additions	-	214,278	612,253	826,531
Disposals	(414,676)	(179,418)	(987,841)	(1,581,935)
Reclassifications	369,563	-	-	369,563
Exchange effect	2,068	33,077	-	35,145
As of December 31, 2018	$688,271	$4,589,136	$3,190,018	$8,467,425

	Software	Patents and technology license fees	Others	Total
As of January 1, 2017	$648,052	$4,607,724	$3,429,547	$8,685,323
Additions	-	-	1,145,110	1,145,110
Disposals	(84,714)	-	(1,009,051)	(1,093,765)
Reclassifications	172,356	-	-	172,356
Exchange effect	(4,378)	(86,525)	-	(90,903)
As of December 31, 2017	$731,316	$4,521,199	$3,565,606	$8,818,121

Accumulated Amortization and Impairment:

	Software	Patents and technology license fees	Others	Total
As of January 1, 2018	$503,527	$2,548,207	$2,306,558	$5,358,292
Amortization	247,348	449,801	1,086,882	1,784,031
Disposals	(414,676)	(179,418)	(987,841)	(1,581,935)
Exchange effect	1,410	19,468	-	20,878
As of December 31, 2018	$337,609	$2,838,058	$2,405,599	$5,581,266

	Software	Patents and technology license fees	Others	Total
As of January 1, 2017	$337,759	$2,114,336	$2,217,858	$4,669,953
Amortization	252,715	473,349	1,097,751	1,823,815
Disposals	(84,714)	-	(1,009,051)	(1,093,765)
Exchange effect	(2,233)	(39,478)	-	(41,711)
As of December 31, 2017	$503,527	$2,548,207	$2,306,558	$5,358,292

The amortization amounts of intangible assets are as follows:

	For the years ended December 31, 2018	For the years ended December 31, 2017
Operating costs	$657,958	$729,832
Operating expenses	$1,126,073	$1,093,983

(11) Short-Term Loans

	As of December 31, 2018	As of December 31, 2017
Unsecured bank loans	$1,384,650	$7,308,350

	For the years ended December 31, 2018	For the years ended December 31, 2017
Interest rates applied	1.56%~2.85%	1.08%~1.87%

The Company's unused short-term lines of credit amounted to NT$34,578 million and NT$27,690 million as of December 31, 2018 and 2017, respectively.

(12) Bonds Payable

	As of December 31, 2018	As of December 31, 2017
Unsecured domestic bonds payable	$23,700,000	$31,200,000
Unsecured convertible bonds payable	18,196,332	18,196,332
Less: Discounts on bonds payable	(518,150)	(878,701)
Total	41,378,182	48,517,631
Less: Current portion	(2,499,235)	(24,841,770)
Net	$38,878,947	$23,675,861

A. The Company issued domestic unsecured corporate bonds. The terms and conditions of the bonds were as follows:

Term	Issuance date	Issued amount	Coupon rate	Repayment
Seven-year	In early June 2012	NT$2,500 million	1.63%	Interest will be paid annually and the principal will be repayable in June 2019 upon maturity.
Five-year	In mid-March 2013	NT$7,500 million	1.35%	Interest will be paid annually and the principal has been fully repaid in March 2018.
Seven-year	In mid-March 2013	NT$2,500 million	1.50%	Interest will be paid annually and the principal will be repayable in March 2020 upon maturity.
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, the Company issued SGX-ST listed currency linked zero coupon convertible bonds. The terms and conditions of the bonds were as follows:

a. Issue Amount: US$600 million

b. Period: May 18, 2015 ~ May 18, 2020 (Maturity date)

c. 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.

d. 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. The conversion price was NT$14.8157 per share on December 31, 2018.

e. Redemption on the Maturity Date: On the maturity date, the Company will redeem the bonds at 98.76% of the principal amount unless, prior to such date:
   i. The Company shall have redeemed the bonds at the option of the Company, or the bonds shall have been redeemed at option of the bondholder;
   ii. The bondholders shall have exercised the conversion right before maturity; or
   iii. The bonds shall have been redeemed or repurchased by the Company and cancelled.

In accordance with IAS 32, 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%.

(13) Long-Term Loans

Details of long-term loans as of December 31, 2018, and 2017 are as follows:

Lenders	As of December 31, 2018	As of December 31, 2017	Redemption
Unsecured Long-Term Loan from Bank of Taiwan	$1,000,000	$300,000	Repayable quarterly from March 23, 2019 to December 23, 2021 with monthly interest payments.
Unsecured Long-Term Loan from Mega International Commercial Bank	-	474,356	Repayable quarterly from October 4, 2015 to October 4, 2018 with monthly interest payments.
Subtotal	1,000,000	774,356	
Less: Current portion	(333,360)	(474,356)	
Total	$666,640	$300,000	

	For the years ended December 31, 2018	For the years ended December 31, 2017
Interest rates applied	0.99%~1.22%	0.99%~1.36%

(14) Post-Employment Benefits

a. Defined contribution plan

The employee pension plan under the Labor Pension Act of the R.O.C. (the Act) 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$883 million and NT$877 million are contributed by the Company for the years ended December 31, 2018 and 2017, 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, 2018 and 2017, total pension expenses of NT$69 million and NT$80 million, respectively, were recognized by the Company.

ii. Movements in present value of defined benefit obligation and fair value of plan assets are as follows:

Movements in present value of defined benefit obligation during the year:

	For the years ended December 31, 2018	For the years ended December 31, 2017
Defined benefit obligation at beginning of year	$(5,671,058)	$(5,481,195)
Items recognized as profit or loss:		
Service cost	(24,477)	(24,130)
Interest cost	(61,247)	(76,737)
Subtotal	(85,724)	(100,867)
Remeasurements recognized in other comprehensive income (loss):		
Arising from changes in financial assumptions	(91,350)	(183,433)
Experience adjustments	(5,907)	13,233
Subtotal	(97,257)	(170,200)
Benefits paid	233,530	81,204
Defined benefit obligation at end of year	$(5,620,509)	$(5,671,058)

Movements in fair value of plan assets during the year:

	For the years ended December 31,	
	2018	2017
Beginning balance of fair value of plan assets	$1,532,539	$1,513,100
Items recognized as profit or loss:		
Interest income on plan assets	16,552	21,183
Contribution by employer	95,577	93,446
Payment of benefit obligation	(233,530)	(81,204)
Remeasurements recognized in other comprehensive income (loss):		
Return on plan assets, excluding amounts included in interest income	42,197	(13,986)
Fair value of plan assets at end of year	$1,453,335	$1,532,539

The actual returns on plan assets of the Company for the years ended December 31, 2018 and 2017 were NT$59 million and NT$7 million, respectively.

iii. The defined benefit plan recognized on the parent company only balance sheets are as follows:

	As of December 31,	
	2018	2017
Present value of the defined benefit obligation	$(5,620,509)	$(5,671,058)
Fair value of plan assets	1,453,335	1,532,539
Funded status	(4,167,174)	(4,138,519)
Net defined benefit liabilities, noncurrent recognized on the parent company only balance sheets	$(4,167,174)	$(4,138,519)

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,	
	2018	2017
Cash	17%	25%
Equity instruments	51%	43%
Debt instruments	24%	26%
Others	8%	6%

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.

v. The principal underlying actuarial assumptions are as follows:

	As of December 31,	
	2018	2017
Discount rate	0.91%	1.08%
Rate of future salary increase	3.50%	3.50%

vi. Expected future benefit payments are as follows:

Year	As of December 31, 2018
2019	$193,387
2020	211,679
2021	251,844
2022	304,317
2023	338,681
2024 and thereafter	4,846,688
Total	$6,146,596

The Company expects to make pension fund contribution of NT$96 million in 2019. The weighted-average durations of the defined benefit obligation are 10 years and 11 years as of December 31, 2018 and 2017, respectively.

vii Sensitivity analysis:

	As of December 31, 2018			
	Discount rate		Rate of future salary increase	
	0.5% increase	0.5% decrease	0.5% increase	0.5% decrease
Decrease (increase) in defined benefit obligation	$262,909	$(281,037)	$(244,120)	$231,751

	As of December 31, 2017			
	Discount rate		Rate of future salary increase	
	0.5% increase	0.5% decrease	0.5% increase	0.5% decrease
Decrease (increase) in defined benefit obligation	$283,095	$(303,570)	$(266,069)	$251,815

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.

(15) Deferred Government Grants

	As of December 31,	
	2018	2017
Beginning balance	$113,779	$77,837
Arising during the period	123,367	69,395
Recorded in profit or loss:		
Other operating income	(35,429)	(27,021)
Exchange effect	2,674	(6,432)
Ending balance	$204,391	$113,779
Current	$49,878	$30,546
Noncurrent	154,513	83,233
Total	$204,391	$113,779

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.

(16) Refund Liabilities

	As of December 31, 2018
Refund liabilities	$1,164,813

Under IFRS 15, the Company's allowance for sales returns and discounts are presented as refund liabilities as a component of other current liabilities, different from its prior presentation as a contra-accounts to accounts receivable.

(17) Equity

a. Capital stock:

i. The Company had 26,000 million common shares authorized to be issued as of December 31, 2018 and 2017, of which 12,424 million shares, and 12,624 million shares were issued as of December 31, 2018 and 2017, respectively, each at a par value of NT$10.

ii. The Company had 143 million and 144 million ADSs, which were traded on the NYSE as of December 31, 2018 and 2017, respectively. The total number of common shares of the Company represented by all issued ADSs were 717 million shares and 721 million shares as of December 31, 2018 and 2017, respectively. One ADS represents five common shares.

iii. On August 27, 2018, the Company cancelled 200 million shares of treasury stock, which were repurchased during the period from March 12 to May 4, 2018, for the purpose of maintaining the Company's credit and stockholders' rights and interests.

b. Treasury stock:

i. The Company carried out treasury stock program and repurchased its shares from the centralized securities exchange market. The purpose for repurchase, and changes in treasury stock during the years ended December 31, 2018 and 2017 are as follows:

For the year ended December 31, 2018
(In thousands of shares)

Purpose	As of January 1, 2018	Increase	Decrease	As of December 31, 2018
For transfer to employees	400,000	-	200,000	200,000
To maintain the Company's credit and stockholders' rights and interests	-	480,000	200,000	280,000
	400,000	480,000	400,000	480,000

For the year ended December 31, 2017

(In thousands of shares)

Purpose	As of January 1, 2017	Increase	Decrease	As of December 31, 2017
For transfer to employees	400,000	-	-	400,000

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, 2018 and 2017, did not exceed the limit.

iii. In compliance with Securities and Exchange Law of the R.O.C., treasury stock 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. As of December 31, 2018 and 2017, the Company's subsidiary, FORTUNE VENTURE CAPITAL CORP., held 16 million shares of the Company's stock. The closing price on December 31, 2018 and 2017, were NT$11.25 and NT$14.20, respectively.

v. 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.

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, 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 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 distribution of earnings for 2017 was approved by the stockholders' meeting held on June 20, 2018, while the distribution of earnings for 2018 was approved by the Board of Directors' meeting on March 6, 2019. The details of distribution are as follows:

	Appropriation of earnings (in thousand NT dollars)		Cash dividend per share (NT dollars)	
	2018	2017	2018	2017
Legal reserve	$707,299	$962,873		
Special reserve	14,513,940	-		
Cash dividends	6,916,105	8,557,023	$0.58	$0.70

The aforementioned 2017 distribution approved by stockholders' meeting was consistent with the resolutions of meeting of Board of Directors held on March 7, 2018.

The cash dividend per share for 2017 was adjusted to NT$0.71164307 per share according to the resolution of the Board of Directors' meeting on June 12, 2018. The adjustment was made for the decrease in outstanding common shares due to the share repurchase program.

The appropriation of 2018 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(20) for information on the employees' compensation and remuneration to directors.

(18) Share-Based Payment

In order to attract, retain talents and reward the employees for their productivity and loyalty, the Company carried out a compensation plan to offer 200 million shares of treasury stock to employees in August 2018. 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 on the grant date, 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 on a straight-line basis over the period in which the services conditions are fulfilled, together with a corresponding increase in equity. As such, for the year ended December 31, 2018, total compensation cost of NT$696 million was recognized by the Company.

(19) Operating Revenues

a. Disaggregation of revenue

By geography

	For the year ended December 31, 2018							
	Taiwan	Singapore	China (includes Hong Kong)	Japan	USA	Europe	Others	Total
Revenue from contracts with customers	$43,787,610	$5,936,074	$10,665,969	$4,218,796	$57,168,649	$6,490,550	$4,566,954	$132,834,602
The timing of revenue recognition:								
At a point in time	$43,700,761	$5,936,074	$7,389,558	$4,214,543	$57,127,024	$5,513,337	$4,566,954	$128,448,251
Over time	86,849	-	3,276,411	4,253	41,625	977,213	-	4,386,351
Total	$43,787,610	$5,936,074	$10,665,969	$4,218,796	$57,168,649	$6,490,550	$4,566,954	$132,834,602

	For the year ended December 31, 2017
Net sales	
Sale of goods	$125,344,036
Other operating revenues	
Royalty	918,205
Mask tooling	3,110,878
Others	2,806,079
Net operating revenues	$132,179,198

Note A: The Company adopted IFRS 15 on January 1, 2018. The Company elected not to restate prior periods in accordance with the transition provision in IFRS 15.

Note B: The geographic breakdown of the Company's operating revenues was based on the location of the Company's customers.

b. Contract balances

i. Contract assets, current

	As of		
	December 31, 2018	January 1, 2018	Differences
Sales of goods and services	$436,638	$81,399	$355,239
Less: Loss allowance	(355,451)	-	(355,451)
Net	$81,187	$81,399	$(212)

The significant increase in gross amount of contract assets in 2018 is the result of the increase in joint technology development services during the year.

The loss allowance was assessed by the company primarily at an amount equal to lifetime expected credit losses for the year ended December 31, 2018. The loss allowance is mainly resulted from the indictment filed by the United States Department of Justice (DOJ) against the Company, which is related to the joint technology development agreement. Please refer to Note 9(7).

ii. Contract liabilities, current

	As of		
	December 31, 2018	January 1, 2018	Differences
Sales of goods and services	$447,702	$3,614,908	$(3,167,206)

Contract liabilities are prepayments from customers for wafer sales and joint technology development services. The outstanding balances of this account decreased in 2018 due to the Company continued to provide services and recognized revenue during the year.

The Company recognized NT$3,429 million in revenues from the current contract liabilities balance at the beginning of the period as performance obligations were satisfied during the year.

c. The Company's transaction price allocated to unsatisfied performance obligations amounted to NT$3,148 million as of December 31, 2018. 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. The estimate of the transaction price does not include any estimated amounts of variable consideration that are constrained.

d. Asset recognized from the cost to fulfill a contract with customer
As of December 31, 2018, the Company recognized the cost to fulfill engineering and service contracts that are eligible for capitalization as assets which amounted to NT$464 million and accounted for as other current assets. Subsequently, the Company will expense to operating costs from the cost to fulfill a contract when the related obligations are satisfied.

(20) Operating Costs and Expenses

a. The Company's employee benefit, depreciation and amortization expenses are summarized as follows:

	For the years ended December 31,					
	2018			2017		
	Operating costs	Operating expenses	Total	Operating costs	Operating expenses	Total
Employee benefit expenses						
Salaries	$14,618,870	$6,272,280	$20,891,150	$13,997,563	$5,707,154	$19,704,717
Labor and health insurance	822,946	311,621	1,134,567	814,633	299,132	1,113,765
Pension	$708,919	$243,354	$952,273	$709,374	$247,243	$956,617
Remuneration to directors	-	13,384	13,384	-	14,772	14,772
Other employee benefit expenses	219,091	71,371	290,462	204,682	87,878	292,560
Depreciation	34,232,154	2,283,766	36,515,920	38,791,686	2,715,695	41,507,381
Amortization	699,882	1,194,589	1,894,471	773,342	1,186,965	1,960,307

According to the Company's Articles of Incorporation, the employees' compensation and remuneration to directors shall be distributed in the following order:

The Company shall allocate no less than 5% of profit as employees' compensation and no more than 0.1% of profit as remuneration to directors 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 remuneration 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' compensation and remuneration to directors and report to the stockholders' meeting for such distribution.

The Company estimates the amounts of the employees' compensation and remuneration to directors and recognizes them in the profit or loss during the periods when earned for the years ended December 31, 2018 and 2017. The Board of Directors estimated 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' compensation and remuneration to directors for 2017 were reported to the stockholders' meeting on June 12, 2018, while the distributions of employees' compensation and remuneration to directors for 2018 were approved through the Board of Directors' meeting on March 6, 2019. The details of distribution are as follows:

	2018	2017
Employees' compensation – Cash	$1,400,835	$1,032,324
Remuneration to directors	7,624	11,452

The aforementioned 2017 employees' compensation and remuneration to directors reported during the stockholders' meeting were consistent with the resolutions of meeting of Board of Directors held on March 7, 2018.

Information relevant to the aforementioned employees' compensation and remuneration to directors can be obtained from the "Market Observation Post System" on the website of the TWSE.

b. The number of the Company's employees were 15,558 and 15,716, including 6 and 4 non-employee directors as of December 31, 2018 and 2017, respectively.

(21) Net Other Operating Income and Expenses

	For the years ended December 31, 2018	2017
Net rental loss from property	$(97,953)	$(124,322)
Gain on disposal of property, plant and equipment	168,849	128,668
Government grants	142,732	43,493
Others	(73,078)	40,966
Total	$140,550	$88,805

(22) Non-Operating Income and Expenses

a. Other gains and losses

	For the years ended December 31, 2018	2017
Gain (loss) on valuation of financial assets and liabilities at fair value through profit or loss	$(896,806)	$610,524
Gain on disposal of investments	-	47,242
Others	124,702	125,359
Total	$(772,104)	$783,125

b. Finance costs

	For the years ended December 31, 2018	2017
Interest expenses		
Bonds payable	$710,663	$763,124
Bank loans	52,305	173,296
Others	112	108
Financial expenses	61,874	42,957
Total	$824,954	$979,485

(23) Components of Other Comprehensive Income (Loss)

	For the year ended December 31, 2018				
	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	$(55,060)	$-	$(55,060)	$32,647	$(22,413)
Unrealized gains or losses on financial assets at fair value through other comprehensive income	1,458,848	-	1,458,848	44,526	1,503,374

	For the year ended December 31, 2018				
	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
Gains or losses on hedging instruments which will not be reclassified subsequently to profit or loss	$(2,572)	$-	$(2,572)	$514	$(2,058)
Share of other comprehensive income (loss) of subsidiaries, associates and joint ventures which will not be reclassified subsequently to profit or loss	(479,969)	-	(479,969)	34,697	(445,272)
Items that may be reclassified subsequently to profit or loss:					
Exchange differences on translation of foreign operations	1,094,614	-	1,094,614	-	1,094,614
Share of other comprehensive income (loss) of subsidiaries, associates and joint ventures which may be reclassified subsequently to profit or loss	(1,062,412)	-	(1,062,412)	(11,995)	(1,074,407)
Total other comprehensive income (loss)	$953,449	$-	$953,449	$100,389	$1,053,838

	For the year ended December 31, 2017				
	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	$(184,186)	$-	$(184,186)	$31,311	$(152,875)
Share of other comprehensive income (loss) of subsidiaries, associates and joint ventures which will not be reclassified subsequently to profit or loss	1,221	-	1,221	-	1,221
Items that may be reclassified subsequently to profit or loss:					
Exchange differences on translation of foreign operations	$(3,249,649)	$-	$(3,249,649)	$-	$(3,249,649)
Unrealized gain (loss) on available-for-sale financial assets	1,294,892	9,541	1,304,433	129,734	1,434,167
Share of other comprehensive income (loss) of subsidiaries, associates and joint ventures which may be reclassified subsequently to profit or loss	(2,059,502)	99,519	(1,959,983)	4,365	(1,955,618)
Total other comprehensive income (loss)	$(4,197,224)	$109,060	$(4,088,164)	$165,410	$(3,922,754)

(24) Income Tax

a. The major components of income tax expense for the years ended December 31, 2018 and 2017 were as follows:

i. Income tax expense recorded in profit or loss

	For the years ended December 31,	
	2018	2017
Current income tax expense (benefit):		
Current income tax charge	$158,250	$2,190,659
Adjustments in respect of current income tax of prior periods	(1,114,417)	(357,265)
Deferred income tax expense (benefit):		

	For the years ended December 31, 2018	2017
Deferred income tax related to origination and reversal of temporary differences	$1,397,173	$(964,308)
Deferred income tax related to recognition and derecognition of tax losses and unused tax credits	(335,367)	(424,608)
Deferred income tax related to changes in tax rates	(831,081)	-
Adjustment of prior year's deferred income tax	(1,502)	6,139
Deferred income tax arising from write-down or reversal of write-down of deferred tax assets	(137,390)	345,420
Income tax (benefit) expense recorded in profit or loss	$(864,334)	$796,037

ii. Income tax related to components of other comprehensive income (loss)

Items that will not be reclassified subsequently to profit or loss:

	For the years ended December 31, 2018	2017
Remeasurements of defined benefit pension plans	$11,012	$31,311
Unrealized gains or losses on financial assets at fair value through other comprehensive income	31,998	-
Gains or losses on hedging instruments which will not be reclassified subsequently to profit or loss	514	-
Share of other comprehensive income (loss) of subsidiaries, associates and joint ventures which will not be reclassified subsequently to profit or loss	39,742	-
Deferred income tax related to changes in tax rates	29,118	-
Income tax related to items that will not be reclassified subsequently to profit or loss	$112,384	$31,311

Items that may be reclassified subsequently to profit or loss:

	For the years ended December 31, 2018	2017
Unrealized loss (gain) on available-for-sale financial assets	$-	$129,734
Share of other comprehensive income (loss) of subsidiaries, associates and joint ventures which may be reclassified subsequently to profit or loss	(18,555)	4,365
Deferred income tax related to changes in tax rates	6,560	-
Income tax related to items that may be reclassified subsequently	$(11,995)	$134,099

iii. Deferred income tax charged directly to equity

	For the years ended December 31, 2018	2017
Deferred income tax related to changes in tax rates	$(56,759)	$-

b. A reconciliation between income tax expense and income before tax at the Company's applicable tax rate was as follows:

	For the years ended December 31, 2018	2017
Income before tax	$6,208,656	$10,424,771
At statutory income tax rate	1,241,731	1,772,211
Adjustments in respect of current income tax of prior periods	(1,114,417)	(357,265)
Net changes in loss carry-forward and investment tax credits	(335,367)	(866,183)
Adjustment of deferred tax assets/liabilities for write-downs/reversals and different jurisdictional tax rates	(45,183)	404,473
Tax effect of non-taxable income and non-deductible expenses:		
Tax exempt income	(433,037)	(1,542,093)
Investment loss	455,603	69,027
Dividend income	(104,500)	(76,925)
Others	137,056	192,754
Deferred income tax related to changes in tax rates	(831,081)	-
Taxes withheld in other jurisdictions	35,551	864,474
Others	129,310	335,564
Income tax expense recorded in profit or loss	$(864,334)	$796,037

c. Significant components of deferred income tax assets and liabilities were as follows:

	As of December 31, 2018	As of December 31, 2017
Deferred income tax assets		
Depreciation	$1,396,350	$1,544,131
Loss carry-forward	499,539	424,608
Pension	825,792	697,478
Refund liabilities	232,854	-
Allowance for sales returns and discounts	-	171,213
Allowance for inventory valuation losses	385,289	333,599
Investment loss	243,270	150,755
Unrealized profit on intercompany sales	1,703,942	1,626,072
Investment tax credits	336,869	-
Deferred revenue	-	452,907
Others	70,534	19,910
Total deferred income tax assets	5,694,439	5,420,673
Deferred income tax liabilities		
Unrealized exchange gain	(535,595)	(348,198)
Depreciation	(329,584)	(185,275)
Investment gain	(460,767)	(431,128)
Convertible bond option	(139,693)	(176,361)
Others	(7,599)	(2,083)
Total deferred income tax liabilities	(1,473,238)	(1,143,045)
Net deferred income tax assets	$4,221,201	$4,277,628

d. Movement of deferred tax

	For the years ended December 31, 2018	For the years ended December 31, 2017
Balance at January 1	$4,277,628	$3,068,959
Impact of retroactive applications	(2,701)	-
Adjusted balance at January 1	4,274,927	3,068,959
Amounts recognized in profit or loss during the period	(91,833)	1,037,357
Amounts recognized in other comprehensive income	100,389	165,410
Amounts recognized in equity	(56,759)	-
Exchange adjustments	(5,523)	5,902
Balance at December 31	$4,221,201	$4,277,628

e. The Company's income tax returns for all the fiscal years up to 2015 have been assessed and approved by the R.O.C. Tax Authority. As of December 31, 2018, income tax returns of Singapore branch has been completed the examination by the tax authorities through 2013.

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 will expire on December 31, 2020.

g. As of December 31, 2018 and 2017, deductible temporary differences for which no deferred income tax assets have been recognized amounted to NT$1,345 million and NT$2,032 million, respectively.

h. The Company's earnings generated in and prior to the year ended December 31, 1997 have been fully appropriated.

i. As of December 31, 2018 and 2017, the taxable temporary differences of unrecognized deferred tax liabilities associated with investments in subsidiaries amounted to NT$11,036 million and NT$9,289 million, respectively.

j. According to the amendments to the R.O.C. Income Tax Act, effective from 2018, the corporate income tax rate is raised from 17% to 20%, and the 10% undistributed earnings tax is lowered to 5%.

(25) Earnings Per Share

a. Earnings per share-basic

Basic earnings per share amounts are calculated by dividing the net income for the year attributable to ordinary equity holders by the weighted-average number of ordinary shares outstanding during the year. The reciprocal stockholdings held by subsidiaries are deducted from the computation of weighted-average number of shares outstanding.

	For the years ended December 31, 2018	For the years ended December 31, 2017
Net income	$7,072,990	$9,628,734
Weighted-average number of ordinary shares for basic earnings per share (thousand shares)	12,103,880	12,208,240
Earnings per share-basic (NTD)	$0.58	$0.79

b. Earnings per share-diluted

Diluted earnings per share is calculated by taking basic earnings per share plus the effect of additional common shares that would have been outstanding if the dilutive share equivalents had been issued. The net income attributable to ordinary equity holders would be also adjusted for the interest and other income or expenses derived from any underlying dilutive share equivalents, such as convertible bonds. For employees' compensation that may be distributed in shares, the number of shares to be distributed is taken into consideration assuming the distribution will be made entirely in shares when calculating diluted earnings per share.

	For the years ended December 31, 2018	2017
Net income	$7,072,990	$9,628,734
Effect of dilution		
Unsecured convertible bonds	283,349	288,091
Income attributable to the Company's stockholders	$7,356,339	$9,916,825
Weighted-average number of common stocks for basic earnings per share (thousand shares)	12,103,880	12,208,240
Effect of dilution		
Employees' compensation	137,511	83,981
Unsecured convertible bonds	1,243,599	1,193,935
Weighted-average number of common stocks after dilution (thousand shares)	13,484,990	13,486,156
Earnings per share- diluted (NTD)	$0.55	$0.74

(26) Reconciliation of Liabilities Arising from Financing Activities

For the year ended December 31, 2018:

Items	As of January 1, 2018	Cash Flows	Non-cash changes: Foreign exchange	Non-cash changes: Others (Note)	As of December 31, 2018
Short-term loans	$7,308,350	$(5,826,250)	$(97,450)	$-	$1,384,650
Long-term loans (current portion included)	774,356	225,644	-	-	1,000,000
Bonds payable (current portion included)	48,517,631	(7,500,000)	-	360,551	41,378,182
Guarantee deposits (current portion included)	526,068	(42,948)	13,166	125,747	622,033
Other financial liabilities-noncurrent	20,486,119	-	(456,551)	380,787	20,410,355

Note: Other non-cash changes mainly consisted of discount amortization measured by the EIR method.

For the year ended December 31, 2017: Not applicable.

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 MICROELECTRONICS (EUROPE) B.V.	Subsidiary
GREEN EARTH LIMITED	Subsidiary
UMC GROUP JAPAN	Subsidiary
WAVETEK MICROELECTRONICS CORPORATION	Subsidiary
TERA ENERGY DEVELOPMENT CO., LTD.	Subsidiary
HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	Subsidiary
UNITEDDS SEMICONDUCTOR (SHANDONG) CO., LTD.	Subsidiary
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD. (USC)	Subsidiary
TRIKNIGHT CAPITAL CORPORATION	Associate
FARADAY TECHNOLOGY CORP. and its Subsidiaries	Associate
SILICON INTEGRATED SYSTEMS CORP.	The Company's director
PHOTRONICS DNP MASK CORPORATION	Other related parties

(2) Significant related party transactions

a. Operating transactions

Operating revenues

	For the years ended December 31, 2018	2017
UMC-USA	$57,107,585	$59,968,172
Subsidiaries	5,667,271	5,293,467
Associates	871,594	1,102,566
Others	27,881	30,417
Total	$63,674,331	$66,394,622

Accounts receivable, net

	As of December 31, 2018	As of December 31, 2017
UMC-USA	$7,312,272	$6,737,723
USC	48,163	4,790,930
Subsidiaries	908,687	689,794
Associates	85,878	62,442
Others	4,266	7,908
Total	8,359,266	12,288,797
Less: Allowance for sales returns and discounts	-	(491,964)
Less: Loss allowance	-	(5,798)
Net	$8,359,266	$11,791,035

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, 2018
UMC-USA	$330,771
Subsidiaries	8,030
Associates	1,287
Others	71
Total	$340,159

b. Significant asset transactions

Acquisition/Disposal of property, plant and equipment

	For the year ended December 31, 2018			
	Item	Purchase price	Disposal amount	Disposal/ Deferred gain
Subsidiaries	Disposal of property, plant and equipment	$-	$271,433	$12,991

	For the year ended December 31, 2017			
	Item	Purchase price	Disposal amount	Disposal/ Deferred gain
Subsidiaries	Acquisition of property, plant and equipment	$16,519	$-	$-
Subsidiaries	Disposal of property, plant and equipment	-	38,120	12,033
Total		$16,519	$38,120	$12,033

Acquisition of intangible assets

	Purchase price For the years ended December 31, 2018	Purchase price For the years ended December 31, 2017
Associates	$200,610	$302,112

Acquisition of investments accounted for under the equity method

Please refer to Major Accounting Item 10.

Disposal of financial assets

For the year ended December 31, 2018: None.

			For the year ended December 31, 2017	
	Trading Volume (In thousands of shares)	Transaction underlying	Proceeds	Disposal (loss) gain
Others	4,903	ASIA PACIFIC MICROSYSTEMS, INC.	$38,340	$(10,391)

c. Others

Mask expenditure

	For the years ended December 31, 2018	For the years ended December 31, 2017
Others	$1,577,235	$920,584

Other payables of mask expenditure

	As of December 31, 2018	As of December 31, 2017
Others	$492,563	$526,318

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, 2018	2017
Short-term employee benefits	$285,617	$177,807
Post-employment benefits	3,938	2,511
Termination benefits	-	6,957
Share-based payment	293,791	-
Total	$583,346	$187,275

8. ASSETS PLEDGED AS COLLATERAL

As of December 31, 2018 and 2017

	Amount As of December 31, 2018	2017	Party to which asset(s) was pledged	Purpose of pledge
Refundable Deposits (Time deposit)	$809,000	$817,195	Customs	Customs duty guarantee
Refundable Deposits (Time deposit)	220,603	229,252	Science Park Administration	Collateral for land lease
Refundable Deposits (Time deposit)	19,579	20,991	Science Park Administration	Collateral for dormitory lease
Refundable Deposits (Time deposit)	-	800	Science Park Administration	Industry-university cooperative research project performance guarantees
Refundable Deposits (Time deposit)	37,084	37,084	Liquefied Natural Gas Business Division, CPC Corporation, Taiwan	Energy resources guarantee
Refundable Deposits (Time deposit)	1,000,000	-	Bank of China	Bank performance guarantee
Total	$2,086,266	$1,105,322		

9. SIGNIFICANT CONTINGENCIES AND UNRECOGNIZED CONTRACT COMMITMENTS

(1) As of December 31, 2018, the Company entrust financial institutes to open performance guarantee, mainly related to the litigations amounted to NT$0.9 billion.

(2) The Company entered into several patent license agreements and development contracts of intellectual property for a total contract amount of approximately NT$12.1 billion. As of December 31, 2018, the portion of royalties and development fees not yet recognized was NT$1.2 billion.

(3) The Company entered into several construction contracts for the expansion of its operations. As of December 31, 2018, these construction contracts amounted to approximately NT$2.3 billion and the portion of the contracts not yet recognized was approximately NT$0.5 billion.

(4) The Company entered into several operating lease contracts for land and office supplies. These renewable operating leases will expire in various years through 2038. Future minimum lease payments under those leases are as follows:

Year	As of December 31, 2018
2019	$326,217
2020	328,296
2021	320,848
2022	322,290
2023	317,049
2024 and thereafter	2,749,524
Total	$4,364,224

(5) 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. As of December 31, 2018, the Company and subsidiaries obtained R.O.C. government authority's approval for the investment and invested RMB 8.3 billion in USC, representing ownership interest of 65.22%. 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 USC at their original investment cost plus interest, beginning from the seventh year following the last instalment payment made by the other investors.

(6) On July 1, 2016, INTERNATIONAL BUSINESS MACHINES CORPORATION (IBM) filed a complaint in the United States District Court for the Southern District of New York accusing that the Company did not pay the technology license fees in accordance with the technology license agreement and claimed US$10 million with interest of 12% per annum. The Company is appealing an unfavorable judgment issued on September 15, 2017 by the United States District Court of Southern District of New York for the subject matter. The appeal is still on trial. Since the final judgement has not been issued, the Company cannot make reliable estimate of the financial effect of the litigation.

(7) In 2017, the Taichung District Prosecutors Office requested the local court to impose a fine to the Company based on the allegation of misappropriation of trade secret of MICRON TECHNOLOGY INC. (“MICRON”). In addition, MICRON filed a civil lawsuit against the Company with the District Court of Northern District of California for the similar cause. The Company has appointed the attorneys to prepare answers against these charges. On January 12, 2018, the Company filed counterclaims against MICRON with the Fuzhou Intermediate People’s Court against, among others, MICRON (XI’AN) CO., LTD. and MICRON (SHANGHAI) TRADING CO. , LTD. for patent infringement. On July 3, 2018, the Fuzhou Intermediate People’s Court issued a ruling against the aforementioned two defendant companies, ruling that the two defendants must immediately cease to manufacture, sell, and import products that infringe the patent rights of the Company. The lawsuit filed by the Company is still on trial. On November 1, 2018, the United States Department of Justice (DOJ) indicted 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, 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. The indictment and civil complaint are still on trial. The Company has appointed attorneys to prepare answers against these charges. Given both litigations are still in the preliminary stages, the Company cannot assess the legal proceeding and probable outcome or impact.

10. SIGNIFICANT DISASTER LOSS

None.

11. SIGNIFICANT SUBSEQUENT EVENTS

None.

12. OTHERS

(1) Categories of financial instruments

	As of December 31,	
Financial Assets	2018	2017
Non-derivative financial instruments		
Financial assets at fair value through profit or loss	$4,297,505	$663,138
Financial assets at fair value through other comprehensive income	11,131,667	-
Available-for-sale financial assets	-	13,715,193
Financial assets measured at cost	-	459,591
Financial assets measured at amortized cost		
Cash and cash equivalents (excludes cash on hand)	59,337,436	60,279,843
Receivables	22,486,029	27,113,045
Refundable deposits	2,553,055	1,682,488
Other financial assets	1,708,786	20,000
Subtotal	86,085,306	89,095,376
Derivative financial instruments		
Financial assets at fair value through profit or loss	3,561	31,605
Total	$101,518,039	$103,964,903

	As of December 31,	
Financial Liabilities	2018	2017
Non-derivative financial instruments		
Financial liabilities measured at amortized cost		
Short-term loans	$1,384,650	$7,308,350
Payables	19,306,055	18,940,767
Guarantee deposits (current portion included)	622,033	526,068
Bonds payable (current portion included)	41,378,182	48,517,631
Long-term loans (current portion included)	1,000,000	774,356
Other financial liabilities	20,523,099	20,486,119
Total	$84,214,019	$96,553,291

(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.

The company designated certain forward exchange contracts, amounting to JPY 23 billion, to partially hedge foreign currency exchange rate risks associated with the highly probable purchase of the remaining outstanding shares of MIFS in JPY. The Company discontinued hedge accounting when the hedging instrument expired prior to December 31, 2018. The cash flow hedge reserve in other components of equity amounted to NT$(2) million as of December 31, 2018.

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, 2018 and 2017 decreases/increases by NT$1,367 million and NT$1,330 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(12) and 6(13) 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, 2018 and 2017 to decrease/increase by NT$2 million and NT$8 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, 2018 and 2017 by NT$141 million and NT$33 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 year ended December 31, 2018 by NT$408 million. A change of 5% in the price of the aforementioned available-for-sale financial instruments of listed companies could increase/decrease the Company's other comprehensive income for the year ended December 31, 2017 by NT$686 million.

(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, which consequently minimizes the Company's exposure to bad debts.

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, 2018 and 2017, accounts receivable from the top ten customers represent 83% and 85% 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 and bonds.

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, 2018				
	Less than 1 year	2 to 3 years	4 to 5 years	> 5 years	Total
Non-derivative financial liabilities					
Short-term loans	$1,412,955	$-	$-	$-	$1,412,955
Payables	19,110,049	-	-	-	19,110,049
Guarantee deposits	52,665	153,973	15,385	400,010	622,033
Bonds payable	3,000,855	23,187,913	8,484,393	8,563,021	43,236,182
Long-term loans	345,373	682,306	-	-	1,027,679
Other financial liabilities	112,744	-	17,477,984	4,369,730	21,960,458
Total	$24,034,641	$24,024,192	$25,977,762	$13,332,761	$87,369,356

	As of December 31, 2017				
	Less than 1 year	2 to 3 years	4 to 5 years	> 5 years	Total
Non-derivative financial liabilities					
Short-term loans	$7,425,159	$-	$-	$-	$7,425,159
Payables	18,656,409	-	-	-	18,656,409
Guarantee deposits	94,856	13,592	29,830	387,790	526,068
Bonds payable	26,321,530	5,564,967	10,590,265	8,689,971	51,166,733
Long-term loans	483,716	207,050	102,350	-	793,116
Other financial liabilities	-	-	13,402,849	8,935,552	22,338,401
Total	$52,981,670	$5,785,609	$24,125,294	$18,013,313	$100,905,886

(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, 2018

Type	Notional Amount	Contract Period
Forward exchange contracts	Sell USD 28 million	December 10, 2018~ January 7, 2019

As of December 31, 2017: 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, 2018			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Financial assets at fair value through profit or loss, current	$493,481	$3,561	$-	$497,042
Financial assets at fair value through profit or loss, noncurrent	2,333,055	26,700	1,444,269	3,804,024
Financial assets at fair value through other comprehensive income, noncurrent	8,166,277	-	2,965,390	11,131,667

	As of December 31, 2017			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Financial assets at fair value through profit or loss, current	$663,138	$-	$31,605	$694,743
Available-for-sale financial assets, noncurrent	9,374,624	-	4,340,569	13,715,193

Fair values of financial assets at fair value through profit or loss, financial assets at fair value through other comprehensive income and available-for-sale financial assets 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, 2018 and 2017, there were no significant transfers between Level 1 and Level 2 fair value measurements.

Reconciliations for fair value measurement in Level 3 fair value hierarchy were as follows:

	Financial assets at fair value through profit or loss			Financial assets at fair value through other comprehensive income (loss)		
	Option	Common stock	Total	Common stock	Preferred stock	Total
As of January 1, 2018	$31,605	$1,655,421	$1,687,026	$2,892,054	$233,326	$3,125,380
Recognized in loss	(31,605)	(93,082)	(124,687)	-	-	-
Recognized in other comprehensive loss	-	-	-	(110,690)	(49,300)	(159,990)
Transfer out of Level 3	-	(118,070)	(118,070)	-	-	-
As of December 31, 2018	$-	$1,444,269	$1,444,269	$2,781,364	$184,026	$2,965,390

	Financial assets at fair value through profit or loss	Available-for-sale financial assets
	Option	Common stock
As of January 1, 2017	$-	$5,129,454
Recognized in profit	31,605	-
Recognized in other comprehensive loss	-	(740,154)
Disposal	-	(48,731)
As of December 31, 2017	$31,605	$4,340,569

Recognized as part of profit (loss) above, the profit (loss) from financial assets still held by the Company as of December 31, 2018 and 2017 was NT$(90) million and NT$32 million, respectively.

Recognized as part of other comprehensive income (loss) above, the income (loss) from financial assets still held by the Company as of December 31, 2018 and 2017 was NT$(160) million and NT$(740) million, respectively.

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 were as follow:

As of December 31, 2018

Category of equity securities	Valuation technique	Significant unobservable inputs	Quantitative information	Interrelationship between inputs and fair value	Sensitivity analysis of interrelationship between inputs and fair value
Unlisted stock	Market Approach	Discount for lack of marketability	20%~30%	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 or loss and other comprehensive income (loss) for the year ended December 31, 2018 by NT$80 million and by NT$196 million, respectively.

As of December 31, 2017

Category of equity securities	Valuation technique	Significant unobservable inputs	Quantitative information	Interrelationship between inputs and fair value	Sensitivity analysis of interrelationship between inputs and fair value
Unlisted stock	Market Approach	Discount for lack of marketability	20%~30%	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 other comprehensive income (loss) for the year ended December 31, 2017 by NT$292 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, 2018

		Fair value measurements during reporting period using			
Items	Fair value	Level 1	Level 2	Level 3	Carrying amount
Bonds payables (current portion included)	$41,714,368	$23,929,019	$17,785,349	$-	$41,378,182
Long-term loans (current portion included)	1,000,000	-	1,000,000	-	1,000,000

As of December 31, 2017

Items	Fair value	Fair value measurements during reporting period using: Level 1	Level 2	Level 3	Carrying amount
Bonds payables (current portion included)	$49,342,714	$31,422,772	$17,919,942	$-	$48,517,631
Long-term loans (current portion included)	774,356	-	774,356	-	774,356

(8) Significant financial assets and liabilities denominated in foreign currencies

	As of December 31, 2018			2017		
	Foreign Currency (thousand)	Exchange Rate	NTD (thousand)	Foreign Currency (thousand)	Exchange Rate	NTD (thousand)
Financial Assets						
Monetary items						
USD	$1,380,337	30.67	$42,334,947	$1,620,654	29.73	$48,182,055
JPY	16,172,571	0.2764	4,470,099	2,124,015	0.2627	557,979
EUR	2,113	35.01	73,972	2,416	35.44	85,623
SGD	34,325	22.41	769,217	29,696	22.22	659,865
RMB	333	4.45	1,482	298	4.54	1,354
Non-Monetary items						
USD	26,063	30.67	799,338	24,000	29.73	713,520
JPY	8,032,210	0.2764	2,220,103	8,413,169	0.2627	2,210,139
SGD	8,212	22.41	184,025	-	-	-
Financial Liabilities						
Monetary items						
USD	317,636	30.77	9,773,670	527,719	29.83	15,741,869
JPY	3,132,121	0.2805	878,560	2,501,268	0.2668	667,339
EUR	13,659	35.41	483,682	3,663	35.84	131,290
SGD	39,650	22.59	895,677	32,498	22.40	727,952
RMB	4,538,975	4.50	20,411,772	4,455,441	4.60	20,486,119

	As of December 31, 2018			2017		
	Foreign Currency (thousand)	Exchange Rate	NTD (thousand)	Foreign Currency (thousand)	Exchange Rate	NTD (thousand)
The exchange gain or loss from monetary financial assets and liabilities						
USD			$642,288			$(680,019)
JPY			56,973			45,005
EUR			8,154			1,467
SGD			4,473			15,703
RMB			420			78
Other			58			526

(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.

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, 2018 and 2017 were as follows:

	As of December 31,	
	2018	2017
Total liabilities	$93,117,497	$108,913,691
Less: Cash and cash equivalents	(59,342,170)	(60,282,802)
Net debt	33,775,327	48,630,889
Total equity	206,069,723	213,080,776
Total capital	$239,845,050	$261,711,665
Debt to capital ratios	14.08%	18.58%

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, 2018: Please refer to Attachment 1.

b. Endorsement/Guarantee provided to others for the year ended December 31, 2018: Please refer to Attachment 2.

c. Securities held as of December 31, 2018 (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, 2018: Please refer to Attachment 4.

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, 2018: 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, 2018: 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, 2018: 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, 2018: Please refer to Attachment 8.

i. Names, locations and related information of investees as of December 31, 2018 (excluding investment in Mainland China): Please refer to Attachment 9.

j. Financial instruments and derivative transactions: Please refer to Note 12.

(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 and Attachment 7.

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.

ATTACHMENT 1 (Financing provided to others for the year ended December 31, 2018)
(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	$10,182,440	$6,134,000	$-	2.05%~2.61%	The need for short-term financing	$-	Business turnover	$-	None	$-	$20,606,972	$82,427,889

TERA ENERGY DEVELOPMENT CO., LTD.

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 (Note3)	Limit of total financing amount (Note3)
													Item	Value		
1	TERA ENERGY DEVELOPMENT CO., LTD.	TIPPING POINT ENERGY COC PPA SPE-1,LLC	Other receivables	No	$2,399	$2,399	$2,399	9.00%	Needs for operation	$2,399	-	$2,399	None	$-	$2,399	$32,659

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.

Note 3: Limit of financing amount for individual counter-party shall not exceed 10% of the lender's net assets value as of the period or the needed amount for operation, which is lower.

Limit of total financing amount shall not exceed 40% of latest financial statements of lender.

ATTACHMENT 2 (Endorsement/Guarantee provided to others for the year ended December 31, 2018)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

No. (Note 1)	Endorsor/Guarantor	Receiving party: Company name	Receiving party: Releationship (Note 2)	Limit of guarantee/endorsement amount for receiving party (Note 3)	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 4)
0	UNITED MICROELECTRONICS CORPORATION	NEXPOWER TECHNOLOGY CORP.	3	$92,731,375	$2,448,000	$2,448,000 (Note 5)	$747,900 (Note 5)	$-	1.19%	$92,731,375
0	UNITED MICROELECTRONICS CORPORATION	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	3	92,731,375	15,427,010	15,427,010 (Note 6)	14,766,115 (Note 6)	-	7.49%	92,731,375
0	UNITED MICROELECTRONICS CORPORATION	SOCIALNEX ITALIA 1 S.R.L.	3	92,731,375	19,917	- (Note 7)	- (Note 7)	-	-	92,731,375

HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.

No. (Note 1)	Endorsor/Guarantor	Receiving party: Company name	Receiving party: Releationship (Note 2)	Limit of guarantee/endorsement amount for receiving party (Note 8)	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 8)
1	HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	6	$10,202,022	$9,020,588	$9,020,588	$4,219,276	$-	39.79%	$10,202,022

Note 1: The parent company and its subsidiaries are coded as follows:
1. The parent company is coded "0".
2. 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:
1. A company with which it does business.
2. A company in which the public company directly and indirectly holds more than 50% of the voting shares.
3. A company that directly and indirectly holds more than 50 % of the voting shares in the public company.
4. A company in which the public company holds, directly or indirectly, 90% or more of the voting shares.
5. 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.
6. A company that all capital contributing shareholders make endorsements/ guarantees for their jointly invested company in proportion to their shareholding percentages.
7. 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 endorsor/guarantor; and the ceilings on the amount of endorsements/guarantees for any single entity are as follows:
1. The amount of endorsements/guarantees for any single entity shall not exceed 45% of net worth of endorsor/guarantor.
2. The amount of endorsements/guarantees for a company which endorsor/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 endorsor/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, 2018.

Note 5: On December 24, 2014, the board of directors resolved to provide endorsement to NEXPOWER TECHNOLOGY CORP.'s syndicated loan from banks including Bank of Taiwan for the amount up to NT$1,700 million.
On December 12, 2018, the board of directors resolved to increase the endorsement amounted to NT$748 million. Total endorsement amount is up to NT$2,448 million.
As of December 31, 2018, actual amount provided was NT$748 million.

Note 6: On Feburary 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 amounted to USD 152 million, on October 24, 2018, the board of directors resolved to increase the endorsement amounted to USD 41 million. Total endorsement amount is up to USD 503 million.
As of December 31, 2018, actual amount provided was NT$14,766 million.

Note 7: On April 26, 2017, the board of directors resolved that UMC directly provided guarantee to SOCIALNEX ITALIA 1 S.R.L., NEXPOWER TECHNOLOGY CORP.'s subsidiary, in the amount up to EUR 558 thousand on June 20, 2017.
The guarantee to SOCIALNEX ITALIA 1 S.R.L. ended in August , 2018.

Note 8: Limit of total endorsed/guaranteed amount shall not exceed 45% of HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.'s net assets value as of December 31, 2018.
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, 2018.
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, 2018) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

				December 31, 2018				
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)
Stock	ACTION ELECTRONICS CO., LTD.	-	Financial assets at fair value through profit or loss, current	18,182	$110,547	6.56	$110,547	None
Fund	MILLERFUL NO.1 REAL ESTATE INVESTMENT TRUST	-	Financial assets at fair value through profit or loss, current	18,000	180,900	1.70	180,900	None
Stock	PIXART IMAGING, INC.	-	Financial assets at fair value through profit or loss, current	1,600	139,840	1.18	139,840	None
Stock	KING YUAN ELECTRONICS CO., LTD.	-	Financial assets at fair value through profit or loss, current	2,675	62,194	0.22	62,194	None
Stock	PIXTECH, INC.	-	Financial assets at fair value through profit or loss, noncurrent	9,883	-	17.63	-	None
Stock	UNITED FU SHEN CHEN TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	17,511	-	15.75	-	None
Stock	HOLTEK SEMICONDUCTOR INC.	-	Financial assets at fair value through profit or loss, noncurrent	24,644	1,436,760	10.90	1,436,760	None
Stock	OCTTASIA INVESTMENT HOLDING INC.	-	Financial assets at fair value through profit or loss, noncurrent	6,692	238,077	9.29	238,077	None
Stock	UNITED INDUSTRIAL GASES CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	16,680	1,206,192	7.66	1,206,192	None
Stock	AMIC TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	5,627	-	4.71	-	None
Stock	SUBTRON TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	12,521	124,581	4.38	124,581	None
Stock	KING YUAN ELECTRONICS CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	20,483	476,222	1.68	476,222	None
Stock	EPISTAR CORP.	-	Financial assets at fair value through profit or loss, noncurrent	10,715	274,304	0.98	274,304	None
Stock	TOPOINT TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,184	21,188	0.82	21,188	None
Stock	PROMOS TECHNOLOGIES INC.	-	Financial assets at fair value through profit or loss, noncurrent	324	-	0.72	-	None
Stock-Preferred stock	TONBU, INC.	-	Financial assets at fair value through profit or loss, noncurrent	938	-	-	-	None
Stock-Preferred stock	AETAS TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,166	-	-	-	None
Stock-Preferred stock	TA SHEE GOLF & COUNTRY CLUB	-	Financial assets at fair value through profit or loss, noncurrent	0	26,700	-	26,700	None
Stock	SILICON INTEGRATED SYSTEMS CORP.	The Company's director	Financial assets at fair value through other comprehensive income, noncurrent	110,356	1,032,930	20.54	1,032,930	None
Stock	UNIMICRON HOLDING LIMITED	-	Financial assets at fair value through other comprehensive income, noncurrent	20,000	561,261	17.00	561,261	None
Stock	MIE FUJITSU SEMICONDUCTOR LIMITED	-	Financial assets at fair value through other comprehensive income, noncurrent	18,447	2,220,103	15.87	2,220,103	None
Stock	UNIMICRON TECHNOLOGY CORP.	-	Financial assets at fair value through other comprehensive income, noncurrent	196,136	4,373,833	13.03	4,373,833	None
Stock	ITE TECH. INC.	-	Financial assets at fair value through other comprehensive income, noncurrent	13,960	424,383	8.66	424,383	None
Stock	NOVATEK MICROELECTRONICS CORP.	-	Financial assets at fair value through other comprehensive income, noncurrent	16,445	2,335,131	2.70	2,335,131	None
Stock-Preferred stock	MTIC HOLDINGS PTE. LTD.	-	Financial assets at fair value through other comprehensive income, noncurrent	12,000	184,026	-	184,026	None
Stock	WAVETEK MICROELECTRONICS CORPORATION	Subsidiary	Prepayment of investment	13,294	132,937	-	N/A	None

ATTACHMENT 3 (Securities held as of December 31, 2018) (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, 2018 Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
Stock	DARCHUN VENTURE CORP.	-	Financial assets at fair value through profit or loss, noncurrent	1,782	$6,146	19.65	$6,146	None
Stock	SOLARGATE TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	957	-	15.94	-	None
Stock	TRONC-E CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,800	2,952	15.93	2,952	None
Stock	CENTERA PHOTONICS INC.	-	Financial assets at fair value through profit or loss, noncurrent	2,500	7,025	11.11	7,025	None
Stock	EVERGLORY RESOURCE TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,500	18,250	10.23	18,250	None
Stock	ADVANCE MATERIALS CORP.	-	Financial assets at fair value through profit or loss, noncurrent	10,719	55,523	8.67	55,523	None
Stock	MONTJADE ENGINEERING CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,800	27,000	8.18	27,000	None
Stock	WIN WIN PRECISION TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3,150	42,052	6.93	42,052	None
Stock	RISELINK VENTURE CAPITAL CORP.	-	Financial assets at fair value through profit or loss, noncurrent	1,754	13,668	6.67	13,668	None
Stock	ACT GENOMICS HOLDINGS CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	4,600	122,741	5.50	122,741	None
Stock	LICO TECHNOLOGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	6,609	-	5.32	-	None
Stock	ACTI CORP.	-	Financial assets at fair value through profit or loss, noncurrent	1,968	15,939	5.31	15,939	None
Stock	TAIWAN AULISA MEDICAL DEVICES TECHNOLOGIES, INC.	-	Financial assets at fair value through profit or loss, noncurrent	800	9,552	4.97	9,552	None
Stock	WALTOP INTERNATIONAL CORP.	-	Financial assets at fair value through profit or loss, noncurrent	654	1,432	4.43	1,432	None
Stock	MERIDIGEN BIOTECH CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3,838	115,133	4.22	115,133	None
Stock	EXCELLENCE OPTOELECTRONICS INC.	-	Financial assets at fair value through profit or loss, noncurrent	6,374	111,862	3.72	111,862	None
Stock	SOLID STATE SYSTEM CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3,000	59,250	3.71	59,250	None
Stock	SUBTRON TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	10,059	100,085	3.52	100,085	None
Stock	ANIMATION TECHNOLOGIES INC.	-	Financial assets at fair value through profit or loss, noncurrent	265	-	3.16	-	None
Stock	TOPOINT TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	4,416	79,049	3.08	79,049	None
Stock	MOBILE DEVICES INC.	-	Financial assets at fair value through profit or loss, noncurrent	261	-	1.96	-	None
Stock	WIESON TECHNOLOGIES CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,141	4,564	1.71	4,564	None
Stock	ALL-STARS XMI LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3	117,111	1.37	117,111	None
Stock	CRYSTALWISE TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	2,114	25,362	1.29	25,362	None
Stock	NORATECH PHARMACEUTICALS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,000	15,970	0.95	15,970	None

ATTACHMENT 3 (Securities held as of December 31, 2018) (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, 2018 Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
Stock	TAIWANJ PHARMACEUTICALS CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	582	$3,917	0.85	$3,917	None
Stock	POWERTEC ENERGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	9,930	58,089	0.75	58,089	None
Stock	PRIMESENSOR TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	434	430	0.71	430	None
Stock	FUSHENG PRECISION CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	700	111,650	0.59	111,650	None
Stock	QUASER MACHINE TOOLS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	200	9,980	0.50	9,980	None
Stock	FORTEMEDIA, INC.	-	Financial assets at fair value through profit or loss, noncurrent	21	1	0.02	1	None
Fund	TRANSLINK CAPITAL PARTNERS IV, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	41,936	3.90	41,936	None
Fund	VERTEX V (C.I.) FUND L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	23,002	1.89	23,002	None
Stock-Preferred Stock	EJOULE INTERNATIONAL LIMITED	-	Financial assets at fair value through profit or loss, noncurrent	23,909	184,020	-	184,020	None
Stock-Preferred Stock	FLOADIA CORP.	-	Financial assets at fair value through profit or loss, noncurrent	2	83,180	-	83,180	None
Stock-Preferred Stock	CEREBREX, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1	36,793	-	36,793	None
Stock-Preferred Stock	FORTEMEDIA, INC.	-	Financial assets at fair value through profit or loss, noncurrent	311	266	-	266	None
Convertible bonds	JIH LIN TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	100	9,950	-	9,950	None
Stock	SHIN-ETSU HANDOTAI TAIWAN CO., LTD.	-	Financial assets at fair value through other comprehensive income, noncurrent	10,500	453,810	7.00	453,810	None
Stock	UNITED MICROELECTRONICS CORP.	Parent company	Financial assets at fair value through other comprehensive income, noncurrent	16,079	180,886	0.13	180,886	None

TLC CAPITAL CO., LTD.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2018 Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
Fund	EVERYI CAPITAL ASIA FUND, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	$122,882	18.18	$122,882	None
Stock	WINKING ENTERTAINMENT LTD.	-	Financial assets at fair value through profit or loss, noncurrent	6,433	197,286	17.53	197,286	None
Stock	BEAUTY ESSENTIALS INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	150,500	107,701	13.99	107,701	None
Fund	OAK HILL OPPORTUNITIES FUND, SEGREGATED PORTFOLIO	-	Financial assets at fair value through profit or loss, noncurrent	9	263,173	9.00	263,173	None
Stock	ACTI CORP.	-	Financial assets at fair value through profit or loss, noncurrent	2,252	18,238	6.08	18,238	None
Stock	EXCELLENCE OPTOELECTRONICS INC.	-	Financial assets at fair value through profit or loss, noncurrent	8,529	149,686	4.98	149,686	None
Stock	EVERGLORY RESOURCE TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,200	8,760	4.91	8,760	None
Stock	ADVANCE MATERIALS CORP.	-	Financial assets at fair value through profit or loss, noncurrent	5,435	28,152	4.39	28,152	None

ATTACHMENT 3 (Securities held as of December 31, 2018) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

TLC CAPITAL CO., LTD.

				December 31, 2018				
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)
Fund	TRANSLINK CAPITAL PARTNERS III, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	$167,417	4.24	$167,417	None
Stock	SUNDIA MEDITECH GROUP	-	Financial assets at fair value through profit or loss, noncurrent	779	12,703	3.23	12,703	None
Stock	WIESON TECHNOLOGIES CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,829	7,314	2.74	7,314	None
Fund	H&QAP GREATER CHINA GROWTH FUND, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	8,889	2.67	8,889	None
Stock	ALL-STARS XMI LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2	100,381	1.17	100,381	None
Stock	SIMPLO TECHNOLOGY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,422	295,876	0.77	295,876	None
Stock	TXC CORP.	-	Financial assets at fair value through profit or loss, noncurrent	1,978	64,087	0.64	64,087	None
Stock	POWERTEC ENERGY CORP.	-	Financial assets at fair value through profit or loss, noncurrent	6,470	37,849	0.49	37,849	None
Convertible bonds	DAFENG TV LTD.	-	Financial assets at fair value through profit or loss, noncurrent	1,700	177,650	-	177,650	None
Stock-Preferred stock	YOUJIA GROUP LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,685	44,483	-	44,483	None
Stock-Preferred stock	ALO7 LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,377	225,953	-	225,953	None
Stock-Preferred stock	ADWO MEDIA HOLDINGS LTD.	-	Financial assets at fair value through profit or loss, noncurrent	5,332	-	-	-	None
Stock-Preferred stock	IMO, INC.	-	Financial assets at fair value through profit or loss, noncurrent	8,519	-	-	-	None
Stock-Preferred stock	HIGHLANDER FINANCIAL GROUP CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	26,499	184,522	-	184,522	None
Stock-Preferred stock	X2 POWER TECHNOLOGIES LTD.	-	Financial assets at fair value through profit or loss, noncurrent	35,819	109,754	-	109,754	None
Stock-Preferred stock	GAME VIDEO LTD.	-	Financial assets at fair value through profit or loss, noncurrent	279	93,930	-	93,930	None
Stock-Preferred stock	CLOUD MOMENT (CAYMAN) INC.	-	Financial assets at fair value through profit or loss, noncurrent	359	17,109	-	17,109	None
Stock-Preferred stock	PLAYNITRIDE INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,739	124,754	-	124,754	None
Stock-Preferred stock	EJOULE INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	35,863	276,030	-	276,030	None
Stock-Preferred stock	TURNING POINT LASERS LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,000	61,340	-	61,340	None

UMC CAPITAL CORP.

				December 31, 2018				
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	SWIFTSTACK, INC.	-	Financial assets at fair value through profit or loss, current	-	USD 834	-	USD 834	None
Convertible bonds	CLOUDWORDS, INC.	-	Financial assets at fair value through profit or loss, current	-	USD 190	-	USD 190	None
Convertible bonds	GLYMPSE, INC.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD 584	-	USD 584	None

ATTACHMENT 3 (Securities held as of December 31, 2018) (Excluding subsidiaries, associates and joint ventures)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UMC CAPITAL CORP.

				December 31, 2018						
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)
Capital	TRANSLINK MANAGEMENT III, L.L.C.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD	615	14.33	USD	615	None
Fund	TRANSLINK CAPITAL PARTNERS IV, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD	4,102	11.70	USD	4,102	None
Fund	TRANSLINK CAPITAL PARTNERS III, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD	14,759	11.47	USD	14,759	None
Stock	OCTTASIA INVESTMENT HOLDING INC.	-	Financial assets at fair value through profit or loss, noncurrent	7,035	USD	8,161	9.76	USD	8,161	None
Stock	ALL-STARS SP IV LTD.	-	Financial assets at fair value through profit or loss, noncurrent	7	USD	7,261	5.03	USD	7,261	None
Fund	TRANSLINK CAPITAL PARTNERS II, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD	1,903	4.53	USD	1,903	None
Fund	OAK HILL OPPORTUNITIES FUND, SEGREGATED PORTFOLIO	-	Financial assets at fair value through profit or loss, noncurrent	4	USD	3,814	4.00	USD	3,814	None
Fund	SIERRA VENTURES XI, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD	1,997	1.76	USD	1,997	None
Fund	STORM VENTURES FUND V, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	USD	2,708	1.69	USD	2,708	None
Stock	ALL-STARS XMI LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3	USD	3,818	1.37	USD	3,818	None
Stock	ACHIEVE MADE INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	80	USD	27	0.57	USD	27	None
Stock	CIPHERMAX, INC.	-	Financial assets at fair value through profit or loss, noncurrent	95		-	-		-	None
Stock-Preferred stock	ACHIEVE MADE INTERNATIONAL LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,644	USD	3,169	-	USD	3,169	None
Stock-Preferred stock	CNEX LABS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	3,052	USD	10,154	-	USD	10,154	None
Stock-Preferred stock	GLYMPSE, INC.	-	Financial assets at fair value through profit or loss, noncurrent	1,349	USD	1,570	-	USD	1,570	None
Stock-Preferred stock	ATSCALE, INC.	-	Financial assets at fair value through profit or loss, noncurrent	7,683	USD	7,559	-	USD	7,559	None
Stock-Preferred stock	SENSIFREE LTD.	-	Financial assets at fair value through profit or loss, noncurrent	276	USD	149	-	USD	149	None
Stock-Preferred stock	APPIER HOLDINGS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	52	USD	1,808	-	USD	1,808	None
Stock-Preferred stock	DCARD HOLDINGS LTD.	-	Financial assets at fair value through profit or loss, noncurrent	27,819	USD	3,857	-	USD	3,857	None
Stock-Preferred stock	NEXTINPUT, INC.	-	Financial assets at fair value through profit or loss, noncurrent	3,866	USD	1,164	-	USD	1,164	None
Stock-Preferred stock	SHOCARD, INC.	-	Financial assets at fair value through profit or loss, noncurrent	517	USD	453	-	USD	453	None
Stock-Preferred stock	GCT SEMICONDUCTOR, INC.	-	Financial assets at fair value through profit or loss, noncurrent	175	USD	23	-	USD	23	None
Stock-Preferred stock	FORTEMEDIA, INC.	-	Financial assets at fair value through profit or loss, noncurrent	12,241	USD	2,740	-	USD	2,740	None
Stock-Preferred stock	SIFOTONICS TECHNOLOGIES CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	3,500	USD	6,053	-	USD	6,053	None
Stock-Preferred stock	NEVO ENERGY, INC.	-	Financial assets at fair value through profit or loss, noncurrent	4,980		-	-		-	None

ATTACHMENT 3 (Securities held as of December 31, 2018) (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, 2018 Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
Stock-Preferred stock	TRILLIANT HOLDINGS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	4,000	USD 5,633	-	USD 5,633	None
Stock-Preferred stock	SWIFTSTACK, INC.	-	Financial assets at fair value through profit or loss, noncurrent	2,855	USD 1,033	-	USD 1,033	None
Stock-Preferred stock	NEXENTA SYSTEMS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	6,555	USD 159	-	USD 159	None
Stock-Preferred stock	CLOUDWORDS, INC.	-	Financial assets at fair value through profit or loss, noncurrent	9,461	USD 4,342	-	USD 4,342	None
Stock-Preferred stock	ZYLOGIC SEMICONDUCTOR CORP.	-	Financial assets at fair value through profit or loss, noncurrent	750	-	-	-	None
Stock-Preferred stock	EAST VISION TECHNOLOGY LTD.	-	Financial assets at fair value through profit or loss, noncurrent	2,770	-	-	-	None
Stock-Preferred stock	SENSIFREE LTD.	-	Prepayments for investments	-	USD 565	-	N/A	None

TERA ENERGY DEVELOPMENT CO., LTD.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2018 Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
Stock	TIAN TAI PHOTOELECTRICITY CO., LTD.	-	Financial assets at fair value through profit or loss, noncurrent	375	$5,985	1.18	$5,985	None

NEXPOWER TECHNOLOGY CORP.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2018 Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
Stock	PACIFIC-GREEN INTEGRATED TECHNOLOGY INC.	-	Financial assets at fair value through profit or loss, noncurrent	54	$-	18.00	$-	None

SINO PARAGON LIMITED

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2018 Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
Fund	SPARKLABS GLOBAL VENTURES FUND I, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	$82,182	11.13	$82,182	None
Fund	SPARKLABS KOREA FUND II, L.P.	-	Financial assets at fair value through profit or loss, noncurrent	-	35,738	8.09	35,738	None

UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.

Type of securities	Name of securities	Relationship	Financial statement account	December 31, 2018 Units (thousand)/ bonds/ shares (thousand)	Carrying amount	Percentage of ownership (%)	Fair value/ Net assets value	Shares as collateral (thousand)
Fund	LANHOR FUND	-	Financial assets at fair value through profit or loss, noncurrent	-	RMB 49,506	9.71	RMB 49,506	None

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, 2018)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

					Beginning balance		Addition		Disposal				Ending balance	
Type of securities	Name of the securities	Financial statement account	Counter-party	Relationship	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)	Units (thousand)/ bonds/ shares (thousand)	Amount	Units (thousand)/ bonds/ shares (thousand)	Amount	Cost	Gain (Loss) from disposal	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)
Stock	GREEN EARTH LIMITED	Investments accounted for under the equity method	Purchase of newly issued shares	Subsidaries	420,000	$9,243,073	557,000	$16,689,894	-	$-	$-	$-	977,000	$17,150,726 (Note 2)
Stock	TRIKNIGHT CAPITAL CORPORATION	Investments accounted for under the equity method	Purchase of newly issued shares	Associate	84,000	894,809	84,000	840,000	-	-	-	-	168,000	1,520,575 (Note 3)

Note 1 : The amounts of beginning and ending balances of investments accounted for under the equity method include adjustments under the equity method.
Note 2 : The ending balance includes share of loss of associates and joint ventures of $(5,570,897) thousand, retained earnings adjustment under equity method of $(2,155,223) thousand and exchange differences on translation of foreign operations adjustment under equity method of $(1,056,121) thousand.
Note 3 : The ending balance includes share of loss of associates and joint ventures of $(200,234) thousand,and cash dividends $(14,000) thousand .

FORTUNE VENTURE CAPITAL CORP.

					Beginning balance		Addition(Note 3)		Disposal				Ending balance	
Type of securities	Name of the securities	Financial statement account	Counter-party	Relationship	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)	Units (thousand)/ bonds/ shares (thousand)	Amount	Units (thousand)/ bonds/ shares (thousand)	Amount	Cost (Note 2)	Gain (Loss) from disposal	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)
Stock	MOTECH INDUSTRIES, INC.	Financial assets at fair value through profit or loss, noncurrent	Open market	-	-	$-	21,998	$338,776	21,998	$300,414	$338,776	$(38,362)	-	$-

Note 1 : The amounts of beginning and ending balances of financial assets at fair value through profit or loss, noncurrent are recorded at the prevailing market prices.
Note 2 : The disposal cost represents historical cost.
Note 3 : As of July 1, 2018, UMC NEW BUSINESS INVESTMENT CORP. was merged with FORTUNE VENTURE CAPITAL CORP. (FORTUNE) and FORTUNE is the surviving company. FORTUNE get the stock of MOTECH INDUSTRIES, INC. from merging.

GREEN EARTH LIMITED

					Beginning balance		Addition		Disposal				Ending balance	
Type of securities	Name of the securities	Financial statement account	Counter-party	Relationship	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)	Units (thousand)/ bonds/ shares (thousand)	Amount	Units (thousand)/ bonds/ shares (thousand)	Amount	Cost	Gain (Loss) from disposal	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)
Capital	UNITED MICROCHIP CORPORATION	Investments accounted for under the equity method	Purchase of newly issued shares	Subsidaries	410,050	$9,008,924	564,000	$16,896,828	-	$-	$-	$-	974,050	$17,123,928 (Note2)

Note 1 : The amounts of beginning and ending balances of investments accounted for under the equity method include adjustment under the equity method.
Note 2 : The ending balance includes share of loss of associates and joint ventures of $(5,570,480) thousand, retained earnings adjustment under equity method of $(2,155,223) thousand and exchange differences on translation of foreign operations adjustment under equity method of $(1,056,121) thousand.

UNITED MICROCHIP CORPORATION

					Beginning balance		Addition		Disposal				Ending balance	
Type of securities	Name of the securities	Financial statement account	Counter-party	Relationship	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)	Units (thousand)/ bonds/ shares (thousand)	Amount	Units (thousand)/ bonds/ shares (thousand)	Amount	Cost	Gain (Loss) from disposal	Units (thousand)/ bonds/ shares (thousand)	Amount (Note 1)
Capital	UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Investments accounted for under the equity method	Purchase of newly issued shares	Associate	-	$8,807,847	-	$16,825,071	-	$-	$-	$-	-	$16,843,287 (Note2)

Note 1 : The amounts of beginning and ending balances of investments accounted for under the equity method include adjustment under the equity method.
Note 2 : The ending balance includes share of loss of associates and joint ventures of $(5,578,287) thousand, retained earnings adjustment under equity method of $(2,155,223) thousand and exchange differences on translation of foreign operations adjustment under equity method of $(1,056,121) thousand.

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, 2018)

(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 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, 2018)

(Amount in thousand; Currency denomination in NTD or in foreign currencies)

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
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, 2018)

(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

		Transactions					Details of non-arm's length transaction		Notes and accounts receivable (payable)			
Counter-party	Relationship	Purchases (Sales)		Amount	Percentage of total purchases (sales)	Term	Unit price	Term		Balance	Percentage of total receivables (payable)	Note
UMC GROUP (USA)	Subsidiary	Sales		$57,107,585	43 %	Net 60 days	N/A	N/A		$7,312,272	33 %	
UMC GROUP JAPAN	Subsidiary	Sales		4,159,637	3 %	Net 60 days	N/A	N/A		905,048	4 %	
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Subsidiary	Sales		1,356,567	1 %	Net 30 days	N/A	N/A		48,163	0 %	
FARADAY TECHNOLOGY CORPORATION	Associate	Sales		861,160	1 %	Month-end 60 days	N/A	N/A		85,878	0 %	

UMC GROUP (USA)

		Transactions					Details of non-arm's length transaction		Notes and accounts receivable (payable)			
Counter-party	Relationship	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	USD	1,847,007	98 %	Net 60 days	N/A	N/A	USD	238,452	98 %	
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Associate	Purchases	USD	21,006	1 %	Net 60 days	N/A	N/A	USD	3,954	2 %	
HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	Associate	Purchases	USD	10,180	1 %	Net 60 days	N/A	N/A	USD	1,152	0 %	

UMC GROUP JAPAN

		Transactions					Details of non-arm's length transaction		Notes and accounts receivable (payable)			
Counter-party	Relationship	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	JPY	14,439,961	94 %	Net 60 days	N/A	N/A	JPY	3,272,967	94 %	
HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	Associate	Purchases	JPY	956,518	6 %	Net 60 days	N/A	N/A	JPY	225,199	6 %	

HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.

		Transactions					Details of non-arm's length transaction		Notes and accounts receivable (payable)			
Counter-party	Relationship	Purchases (Sales)		Amount	Percentage of total purchases (sales)	Term	Unit price	Term		Balance	Percentage of total receivables (payable)	Note
UMC GROUP (USA)	Associate	Sales	RMB	66,759	3 %	Net 60 days	N/A	N/A	RMB	7,907	2 %	
FARADAY TECHNOLOGY CORPORATION	Associate	Sales	RMB	64,948	3 %	Net 45 days	N/A	N/A	RMB	9,171	3 %	
UMC GROUP JAPAN	Associate	Sales	RMB	59,269	3 %	Net 60 days	N/A	N/A	RMB	13,935	4 %	

UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.

		Transactions					Details of non-arm's length transaction		Notes and accounts receivable (payable)			
Counter-party	Relationship	Purchases (Sales)		Amount	Percentage of total purchases (sales)	Term	Unit price	Term		Balance	Percentage of total receivables (payable)	Note
UMC GROUP (USA)	Associate	Sales	RMB	153,304	11 %	Net 60 days	N/A	N/A	RMB	27,137	13 %	

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, 2018)

(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

		Ending balance					Overdue receivables			
Counter-party	Relationship	Notes receivable	Accounts receivable	Other receivables	Total	Turnover rate (times)	Amount	Collection status	Amount received in subsequent period	Loss allowance
UMC GROUP (USA)	Subsidiary	$-	$7,312,272	$1,069	$7,313,341	8.13	$-	Collection in subsequent period	$7,313,341	$-
UMC GROUP JAPAN	Subsidiary	-	905,048	3	905,051	5.32	193,111	Collection in subsequent period	793,239	-

UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.

		Ending balance					Overdue receivables			
Counter-party	Relationship	Notes receivable	Accounts receivable	Other receivables	Total	Turnover rate (times)	Amount	Collection status	Amount received in subsequent period	Loss allowance
UMC GROUP (USA)	Associate	$-	RMB 27,137	$-	RMB 27,137	5.27	$-	Collection in subsequent period	RMB 7,868	$-

ATTACHMENT 9 (Names, locations and related information of investee companies as of December 31, 2018) (Not including investment in Mainland China)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UNITED MICROELECTRONICS CORPORATION

			Initial Investment				Investment as of December 31, 2018					
Investee company	Address	Main businesses and products	Ending balance		Beginning balance		Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
UMC GROUP (USA)	USA	IC Sales	USD	16,438	USD	16,438	16,438	100.00	$1,712,388	$51,023	$51,023	
UNITED MICROELECTRONICS (EUROPE) B.V.	The Netherlands	Marketing support activities	USD	5,421	USD	5,421	9	100.00	142,532	2,749	2,749	
UMC CAPITAL CORP.	Cayman Islands	Investment holding	USD	81,500	USD	81,500	71,663	100.00	3,496,187	(114,609)	(120,668)	
GREEN EARTH LIMITED	Samoa	Investment holding	USD	977,000	USD	420,000	977,000	100.00	17,150,726	(5,570,897)	(5,570,897)	
TLC CAPITAL CO., LTD.	Taipei City, Taiwan	Venture capital		4,610,000		5,450,000	387,600	100.00	4,246,675	(28,853)	(28,853)	
UMC INVESTMENT (SAMOA) LIMITED	Samoa	Investment holding	USD	1,520	USD	1,520	1,520	100.00	42,908	532	532	
FORTUNE VENTURE CAPITAL CORP.	Taipei City, Taiwan	Consulting and planning for venture capital		4,160,053		4,160,053	462,000	100.00	5,358,068	(196,483)	(207,925)	
UMC GROUP JAPAN	Japan	IC Sales	JPY	60,000	JPY	60,000	1	100.00	45,187	43,056	43,056	
UMC KOREA CO., LTD.	Korea	Marketing support activities	KRW	550,000	KRW	550,000	110	100.00	20,688	1,148	1,148	
OMNI GLOBAL LIMITED	Samoa	Investment holding	USD	4,300	USD	4,300	4,300	100.00	572,512	42,683	42,683	
SINO PARAGON LIMITED	Samoa	Investment holding	USD	2,600	USD	2,600	2,600	100.00	120,901	14,442	14,442	
BEST ELITE INTERNATIONAL LIMITED	British Virgin Islands	Investment holding	USD	309,102	USD	309,102	664,966	100.00	23,090,363	376,114	366,937	
WAVETEK MICROELECTRONICS CORPORATION	Hsinchu County, Taiwan	Sales and manufacturing of integrated circuits		1,707,482		1,707,482	126,230	77.74	275,854	(308,322)	(239,687)	
NEXPOWER TECHNOLOGY CORP.	Taichung City, Taiwan	Sales and manufacturing of solar power batteries		5,956,791		5,777,225	33,998	47.75	53,958	(351,503)	(160,342)	
MTIC HOLDINGS PTE. LTD.	Singapore	Investment holding	SGD	12,000	SGD	12,000	12,000	45.44	3,026	(66,071)	189,070	
UNITECH CAPITAL INC.	British Virgin Islands	Investment holding	USD	21,000	USD	21,000	21,000	42.00	568,005	(287,977)	(120,950)	
TRIKNIGHT CAPITAL CORPORATION	Taipei City, Taiwan	Investment holding		1,680,000		840,000	168,000	40.00	1,520,575	(500,583)	(200,234)	
HSUN CHIEH INVESTMENT CO., LTD.	Taipei City, Taiwan	Investment holding		336,241		336,241	168,973	36.49	3,419,430	(1,397,996)	(513,464)	
YANN YUAN INVESTMENT CO., LTD.	Taipei City, Taiwan	Investment holding		2,300,000		2,300,000	46,000	30.87	2,642,543	278,496	85,978	
FARADAY TECHNOLOGY CORPORATION	Hsinchu City, Taiwan	Design of application-specific integrated circuit		38,918		38,918	34,240	13.78	1,477,167	(417,599)	(57,528)	
UMC NEW BUSINESS INVESTMENT CORP.	Taipei City, Taiwan	Investment holding		-		5,900,000	-	-	-	(218,697)	(218,697)	Note

Note：As of July 1, 2018, UMC NEW BUSINESS INVESTMENT CORP. was merged with FORTUNE VENTURE CAPITAL CORP. (FORTUNE) and FORTUNE is the surviving company.

ATTACHMENT 9 (Names, locations and related information of investee companies as of December 31, 2018) (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	Initial Investment: Ending balance	Initial Investment: Beginning balance	Investment as of December 31, 2018: Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
TERA ENERGY DEVELOPMENT CO., LTD.	Hsinchu City, Taiwan	Energy Technical Services	$100,752	$-	18,655	100.00	$81,648	$1,786	$(1,451)	Note 1
NEXPOWER TECHNOLOGY CORP.	Taichung City, Taiwan	Sales and manufacturing of solar power batteries	1,688,630	1,578,630	23,827	33.46	37,815	(351,503)	(121,932)	
WINAICO IMMOBILIEN GMBH	Germany	Solar project	EUR 5,900	-	5,900	32.78	-	(385,242)	-	Note 1
UNITED LED CORPORATION HONG KONG LIMITED	Hongkong	Investment holding	USD 22,500	-	22,500	25.14	167,953	(180,315)	(22,086)	Note 1
CLIENTRON CORP.	Xinbei City, Taiwan	Thin client	283,439	308,580	14,247	22.39	249,762	88,246	17,718	
WAVETEK MICROELECTRONICS CORPORATION	Hsinchu County, Taiwan	Sales and manufacturing of integrated circuits	8,856	8,856	1,194	0.73	4,468	(308,322)	(2,267)	
UNISTARS CORPORATION	Hsinchu County, Taiwan	High brightness LED packages	-	-	-	-	-	(49,879)	(22,990)	Note 1, 2

Note 1 : As of July 1, 2018, UMC NEW BUSINESS INVESTMENT CORP. was merged with FORTUNE VENTURE CAPITAL CORP. (FORTUNE) and FORTUNE is the surviving company.

Note 2 : UNISTARS CORPORATION was disposed in December 2018.

TLC CAPITAL CO., LTD.

Investee company	Address	Main businesses and products	Initial Investment: Ending balance	Initial Investment: Beginning balance	Investment as of December 31, 2018: Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
SOARING CAPITAL CORP.	Samoa	Investment holding	USD 900	USD 900	900	100.00	$14,199	$(1,904)	$(1,904)	
YUNG LI INVESTMENTS, INC.	Taipei City, Taiwan	Investment holding	22,581	59,125	2,258	45.16	2,213	(6,784)	(3,064)	
HSUN CHIEH CAPITAL CORP.	Samoa	Investment holding	USD 6,000	USD 6,000	6,000	30.00	161,319	(69,437)	(20,831)	
VSENSE CO., LTD.	Taipei City, Taiwan	Medical devices, measuring equipment, reagents and consumables	95,916	95,916	4,251	26.89	31,544	(24,693)	(7,000)	
NEXPOWER TECHNOLOGY CORP.	Taichung City, Taiwan	Sales and manufacturing of solar power batteries	888,019	828,019	8,645	12.14	13,721	(351,503)	(32,118)	

UMC CAPITAL CORP.

Investee company	Address	Main businesses and products	Initial Investment: Ending balance	Initial Investment: Beginning balance	Investment as of December 31, 2018: Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
UMC CAPITAL (USA)	USA	Investment holding	USD 200	USD 200	200	100.00	USD 546	USD 11	USD 11	
TRANSLINK CAPITAL PARTNERS I, L.P.	Cayman Islands	Investment holding	USD 4,036	USD 4,036	-	10.38	USD 3,927	USD 3,168	USD 263	

ATTACHMENT 9 (Names, locations and related information of investee companies as of December 31, 2018) (Not including investment in Mainland China)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

UMC NEW BUSINESS INVESTMENT CORP.(Note)

			Initial Investment		Investment as of December 31, 2018					
Investee company	Address	Main businesses and products	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
TERA ENERGY DEVELOPMENT CO., LTD.	Hsinchu City, Taiwan	Energy Technical Services	$-	$190,752	-	-	$-	$1,786	$3,237	
UNISTARS CORPORATION	Hsinchu County, Taiwan	High brightness LED packages	-	606,980	-	-	-	(49,879)	(18,916)	
WINAICO IMMOBILIEN GMBH	Germany	Solar project	-	EUR 5,900	-	-	-	(385,242)	-	
UNITED LED CORPORATION HONG KONG LIMITED	Hongkong	Investment holding	-	USD 22,500	-	-	-	(180,315)	(23,244)	

Note：As of July 1, 2018, UMC NEW BUSINESS INVESTMENT CORP. was merged with FORTUNE VENTURE CAPITAL CORP. (FORTUNE) and FORTUNE is the surviving company.

TERA ENERGY DEVELOPMENT CO., LTD.

			Initial Investment		Investment as of December 31, 2018					
Investee company	Address	Main businesses and products	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
EVERRICH ENERGY INVESTMENT (HK) LIMITED	Hongkong	Investment holding	USD 750	USD 1,092	750	100.00	$32,358	$2,987	$2,987	
WINAICO SOLAR PROJEKT 1 GMBH	Germany	Solar project	EUR 1,120	EUR 1,120	1,120	50.00	-	(47,087)	-	
WINAICO IMMOBILIEN GMBH	Germany	Solar project	EUR 2,160	EUR 2,160	2,160	12.00	-	(385,242)	-	

WAVETEK MICROELECTRONICS CORPORATION

			Initial Investment		Investment as of December 31, 2018					
Investee company	Address	Main businesses and products	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
WAVETEK MICROELECTRONICS INVESTMENT (SAMOA) LIMITED	Samoa	Investment holding	USD 1,500	USD 1,200	1,500	100.00	$9,106	$(7,277)	$(7,277)	

WAVETEK MICROELECTRONICS INVESTMENT (SAMOA) LIMITED

			Initial Investment		Investment as of December 31, 2018					
Investee company	Address	Main businesses and products	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
WAVETEK MICROELECTRONICS CORPORATION (USA)	USA	Sales and marketing service	USD 60	USD 60	60	100.00	$2,601	$194	$194	

NEXPOWER TECHNOLOGY CORP.

			Initial Investment		Investment as of December 31, 2018					
Investee company	Address	Main businesses and products	Ending balance	Beginning balance	Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
SOCIALNEX ITALIA 1 S.R.L.	Italy	Photovoltaic power plant	EUR 3,637	EUR 3,637	-	100.00	$125,356	$1,342	$1,342	

ATTACHMENT 9 (Names, locations and related information of investee companies as of December 31, 2018) (Not including investment in Mainland China)
(Amount in thousand; Currency denomination in NTD or in foreign currencies)

BEST ELITE INTERNATIONAL LIMITED

			Initial Investment				Investment as of December 31, 2018					
Investee company	Address	Main businesses and products	Ending balance		Beginning balance		Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
INFOSHINE TECHNOLOGY LIMITED	British Virgin Islands	Investment holding	USD	354,000	USD	354,000	-	100.00	$23,013,970	$381,162	$381,162	

INFOSHINE TECHNOLOGY LIMITED

			Initial Investment				Investment as of December 31, 2018					
Investee company	Address	Main businesses and products	Ending balance		Beginning balance		Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
OAKWOOD ASSOCIATES LIMITED	British Virgin Islands	Investment holding	USD	354,000	USD	354,000	-	100.00	$23,013,970	$381,162	$381,162	

OMNI GLOBAL LIMITED

			Initial Investment				Investment as of December 31, 2018					
Investee company	Address	Main businesses and products	Ending balance		Beginning balance		Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
UNITED MICROTECHNOLOGY CORPORATION (NEW YORK)	USA	Research & Development	USD	950	USD	950	0	100.00	$30,881	$(29)	$(29)	
UNITED MICROTECHNOLOGY CORPORATION (CALIFORNIA)	USA	Research & Development	USD	1,000	USD	1,000	0	100.00	34,343	2,328	2,328	
ECP VITA PTE. LTD.	Singapore	Insurance	USD	9,000	USD	9,000	9,000	100.00	518,747	41,130	41,130	
UMC TECHNOLOGY JAPAN CO., LTD.	Japan	Semiconductor manufacturing technology development and consulting services	JPY	35,000	JPY	35,000	4	100.00	9,111	(246)	(246)	

GREEN EARTH LIMITED

			Initial Investment				Investment as of December 31, 2018					
Investee company	Address	Main businesses and products	Ending balance		Beginning balance		Number of shares (thousand)	Percentage of ownership (%)	Carrying amount	Net income (loss) of investee company	Investment income (loss) recognized	Note
UNITED MICROCHIP CORPORATION	Cayman	Investment holding	USD	974,050	USD	410,050	974,050	100.00	$17,123,928	$(5,570,480)	$(5,570,480)	

ATTACHMENT 10 (Investment in Mainland China as of December 31, 2018)
(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, 2018	Investment flows: Outflow	Investment flows: Inflow	Accumulated outflow of investment from Taiwan as of December 31, 2018	Net income (loss) of investee company	Percentage of ownership	Investment income (loss) recognized (Note 2)	Carrying amount as of December 31, 2018	Accumulated inward remittance of earnings as of December 31, 2018
UNITRUTH ADVISOR (SHANGHAI) CO., LTD.	Investment Holding and advisory	$24,536 (USD 800)	(ii)SOARING CAPITAL CORP.	$24,536 (USD 800)	$-	$-	$24,536 (USD 800)	$(1,812)	100.00%	$(1,812) (iii)	$13,962	$-
SHANDONG HUAHONG ENERGY INVEST CO., INC.	Invest new energy business	1,334,100 (RMB 300,000)	(i)	41,711 (USD 1,360)	-	-	41,711 (USD 1,360)	(5,549)	-	- (iii)	-	-
JINING SUNRICH SOLAR ENERGY CORP.	To construct, operate, and maintain solar power plant	1,245,160 (RMB 280,000)	(iii)SHANDONG HUAHONG ENERGY INVEST CO., INC.	641,923 (USD 20,930)	-	-	641,923 (USD 20,930)	(5,296)	-	- (iii)	-	-
EVERRICH (SHANDONG) ENERGY CO., LTD.	Solar engineering integrated design services	23,003 (USD 750)	(ii)EVERRICH ENERGY INVESTMENT (HK) LIMITED	23,003 (USD 750)	-	-	23,003 (USD 750)	3,108	100.00%	3,108 (iii)	31,805	134,703 (USD 4,392)
UNITED LED CORPORATION	Research, manufacturing and sales in LED epitaxial wafers	2,576,280 (USD 84,000)	(ii)UNITED LED CORPORATION HONG KONG LIMITED	621,068 (USD 20,250)	-	-	621,068 (USD 20,250)	(176,097) (RMB (39,599))	25.14%	(44,270) (RMB (9,955)) (ii)	159,785 (RMB 35,931)	-
HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	Sales and manufacturing of integrated circuits	14,252,697 (RMB 3,205,014)	(ii)OAKWOOD ASSOCIATES LIMITED	9,480,158 (USD 309,102)	-	-	9,480,158 (USD 309,102)	351,073 (RMB 78,946)	98.14% (Note 4)	341,739 (RMB 76,847) (ii)	22,248,377 (RMB 5,003,008)	-
UMC (BEIJING) LIMITED	Marketing support activities	-	(ii)UMC INVESTMENT (SAMOA) LIMITED	15,335 (USD 500)	-	-	15,335 (USD 500)	(424)	- (Note 6)	(424) (iii)	-	-
UNITEDDS SEMICONDUCTOR (SHANDONG) CO., LTD.	Design support of integrated circuits	133,410 (RMB 30,000)	(iii)HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	-	-	-	-	14,355 (RMB 3,228)	98.14%	14,359 (RMB 3,229) (iii)	190,865 (RMB 42,920)	-
UNITED SEMICONDUCTOR (XIAMEN) CO., LTD.	Sales and manufacturing of integrated circuits	56,467,090 (RMB 12,697,794)	(ii)UNITED MICROCHIP CORPORATION and (iii)HEJIAN TECHNOLOGY (SUZHOU) CO., LTD.	12,368,230 (USD 403,268) (Note 5)	17,227,277 (USD 561,698)	-	29,595,507 (USD 964,966) (Note 5)	(11,435,314) (RMB (2,571,467))	64.95%	(7,178,312) (RMB (1,614,192)) (ii)	21,990,833 (RMB 4,945,094)	-

Accumulated investment in Mainland China as of December 31, 2018	Investment amounts authorized by Investment Commission, MOEA	Upper limit on investment
$40,443,241 (USD 1,318,658)	$50,621,295 (USD 1,650,515)	$123,641,834

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.

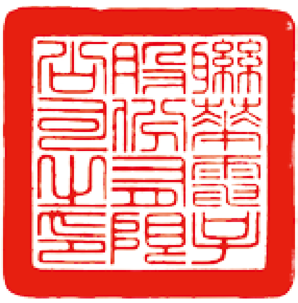
Note 4 : The Company indirectly invested in HEJIAN TECHNOLOGY (SUZHOU) CO., LTD. via investment in BEST ELITE INTERNATIONAL LIMITED, an equity investee. The investment has been approved by the Investment Commission, MOEA in the total amount of US$383,569 thousand. As of December 31, 2018, the amount 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 US$1,222,356 thousand. As of December 31, 2018, the amount of investment has been all remitted.

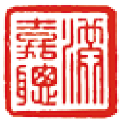
Note 6 : The liquidation of UMC (BEIJING) LIMITED was completed as of June 20, 2018.

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

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