2020 Annual Report

Drive for better vision

Dear Shareholders,

Looking back at 2020, it was a volatile year. The global economy and semiconductor industry were severely damaged by the outbreak of COVID-19 and overshadowed by the prolonged US-China trade tension. The market for electronics devices saw a strong turnaround in demand during the second half of 2020 fueled by new work-from-home and e-learning lifestyles. However, the demand surge also intensified the ongoing capacity shortage in foundry, assembly and testing. Under these challenging conditions, Himax thrived, delivering strong business results with a much-improved product mix from our comprehensive product portfolio, diversified customer base and long-term partnerships with suppliers.

It was a fruitful year for Himax in 2020. We increased our market share and achieved record revenue and gross margin in the fourth quarter while maintaining our leadership positions in tablet and automotive. We also made significant progress in our promising ultralow power smart sensing solutions. For the longer term, we remain committed to investing across all our product segments to further solidify our leading position in the global marketplace. As we move forward, we are dedicated to high quality, strict reliability, and efficient execution to deliver shareholder value.

Now let me review each of our major business segments in 2020.

Starting with our driver business, despite the capacity shortage the overall display driver IC businesses demonstrated robust growth. Led by TDDI for tablet and smartphone, our small and medium-sized driver IC segment dominated this year's strong growth.

For our large display driver IC business, the prevailing work-from-home and distance education gave rise to strong growth in monitor and notebook businesses in 2020. However, TV sales declined due to weakness in the global TV market. As market dynamics embrace higher frame rate and higher resolution technologies, Himax has become a preferred integrated solution supplier providing extensive display driver and high-end Tcon solution to customers. This has resulted in our successful penetration into 4K/8K TV, gaming monitor and low power consumption notebook markets.

For our small and medium-sized driver IC business, the tablet segment was the top sales contributor, posting the highest growth of all product lines in 2020. The substantial growth reflected robust customer demand and rapid TDDI penetration, as well as our leading position in the Android tablet market. Himax pioneered the tablet TDDI technology and led mass production starting from the first quarter of 2020. Our tablet TDDI offers a lighter weight, slimmer and more stylish design as well as improved touch accuracy with an active stylus specifically geared for high quality writing and drawing. We are the dominant supplier of tablet TDDI for literally all leading Android names. In the smartphone market, we succeeded in regaining market share with our comprehensive product portfolio and capacity support.

Turning to automotive segment. Global car sales were badly hit by the pandemic in first half of 2020 but began to recover during Q3 2020 with sales for our automotive drivers showing decent growth in the fourth quarter. Himax, as a leader in the automotive driver IC market, foresees additional market share gains as the automotive market embraces new display technologies and shifts towards larger, more sophisticated, higher performing displays as well as more displays inside each car. We sustained our competitive position with a comprehensive product offering for advanced new features such as in-cell touch, local dimming, cascade-topology connection and P2P high-speed interface bridging function. Meanwhile, in anticipation of the unfolding display application demand, we have secured a meaningful capacity increase in automotive to support the long-term growth.

Our non-driver IC segment progressed nicely in 2020. While WLO revenue decreased as shipment for legacy models to an anchor customer declined, we continued to work with key customers and partners for their next generation products with our leading nanoimprinting technologies and diffraction optics design. Looking at 3D sensing for smartphone, we offer our leading ToF optical components and team up with leading VCSEL suppliers, ToF sensor vendors, module makers and smartphone OEMs to develop a new world-facing 3D sensing camera targeting next generation Android smartphones. For non-smartphone 3D sensing, our structured

light-based 3D decoder ASIC was certified by the leading Chinese electronic payment standard. A decent order pipeline and new design-in sockets are expected in 2021.

In the ultralow power smart sensing, we made encouraging progress in both total solution and key component business models. For total solution that integrates Himax AoS sensor, ultralow power AI processor and computer-vision AI algorithm from our subsidiary EMZA or third-party algorithm partners, we are currently aiming at numerous applications, notably TV, notebook, air conditioner, automotive, utilities meter and AIoT applications, just to name a few. We expect a solid production ramp-up by the end of 2021. For key components, we partnered with world-leading AI and cloud service ecosystem providers, such as Google and Microsoft, to leverage their leading-edge AI frameworks. Following the successful adoption of our WE-I Plus AI processor in the Google TensorFlow Lite for Microcontrollers framework, our WE-I Plus AIoT platform was endorsed by Microsoft and was awarded the Azure IoT PnP certificate. We also promoted our key components with various partners including SparkFun, an online retail store, and Edge Impulse, a leading end-to-end AI developer platform provider, to build an extended and easily deployed network for emerging edge AI and AIoT markets that require ultralow power. We are excited about our progress and believe our smart sensing offerings will become a major contributor to our business growth soon.

As we look forward, semiconductor foundry supply is not likely to see a significant increase soon with strong demand persisting and the capacity shortage becoming even more severe. By managing our foundry capacity for optimal allocation based on products where Himax is a market leader or has strong customer support, we are well positioned to meet this challenge and continue to deliver strong results.

I am grateful for the support of our shareholders, customers, partners, and employees, and look forward with confidence to having a great year in 2021.

Sincerely,
Jordan Wu
President and CEO
Himax Technologies, Inc.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 20-F

(Mark One)

☐ **REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934**

OR

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2020

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from _____ to _____

OR

☐ **SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
Date of event requiring this shell company report _____

Commission file number: 000-51847

HIMAX TECHNOLOGIES, INC.
(Exact name of Registrant as specified in its charter)

Not Applicable
(Translation of Registrant's name into English)

CAYMAN ISLANDS
(Jurisdiction of incorporation or organization)

NO. 26, ZIH LIAN ROAD
SINSHIH DISTRICT, TAINAN CITY 74148
TAIWAN, REPUBLIC OF CHINA
(Address of principal executive offices)

Jessica Pan
Chief Financial Officer
Telephone: +886-6-505-0880
E-mail: jessica_pan@himax.com.tw
Facsimile: +886-6-507-0038
No. 15, Zih Lian Road
Sinshih District, Tainan City 74148
Taiwan, Republic of China
(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
Ordinary Shares, par value $0.3 per ordinary share	**HIMX**	**The NASDAQ Global Select Market Inc.***

* Not for trading, but only in connection with the listing on the NASDAQ Global Select Market, Inc. of American Depositary Shares representing such Ordinary Shares.

Securities registered or to be registered pursuant to Section 12(g) of the Act: None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report. 347,534,102 Ordinary Shares.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. ☒ Yes ☐ No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. ☐ Yes ☒ No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. ☒ Yes ☐ No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).
☒ Yes ☐ No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See definition of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐	Accelerated filer ☒	Non-accelerated filer ☐
		Emerging growth company ☐

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 13(a) of the Exchange Act.

† The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP ☐	International Financial Reporting Standards as issued by the International Accounting Standards Board ☒	Other ☐

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow. ☐ Item 17 ☐ Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). ☐ Yes ☒ No

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This annual report on Form 20-F contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Although these forward-looking statements, which may include statements regarding our future results of operations, financial condition, or business prospects, are based on our own information and information from other sources we believe to be reliable, you should not place undue reliance on these forward-looking statements, which apply only as of the date of this annual report. The words "anticipate," "believe," "expect," "intend," "plan," "estimate" and similar expressions, as they relate to us, are intended to identify a number of these forward-looking statements. Our actual results of operations, financial condition or business prospects may differ materially from those expressed or implied in these forward-looking statements for a variety of reasons, including, among other things and not limited to, our anticipated growth strategies, our and our customers' future business developments, results of operations and financial condition, our ability to develop new products, the future growth and pricing trend of the display driver markets, the future growth of end-use applications that use flat panel displays, particularly TFT-LCD panels, development of alternative flat panel display technologies, market acceptance and competitiveness of the driver and non-driver products developed by us, our ability to protect intellectual property, changes in customer relations and preference, shortage in supply of key components, our ability to collect accounts receivable and manage inventory, changes in economic and financial market conditions, and other factors. For a discussion of these risks and other factors, please see "Item 3.D. Key Information—Risk Factors."

CERTAIN CONVENTIONS

Unless otherwise indicated, all translations from U.S. dollars to NT dollars in this annual report were made at a rate of $1.00 to NT$28.08, the exchange rates set forth in the H.10 weekly statistical release of the Federal Reserve System of the United States (the "Federal Reserve Board") on December 31, 2020. No representation is made that the NT dollar amounts referred to herein could have been or could be converted into U.S. dollars at any particular rate or at all. On March 19, 2021, the noon buying rate was $1.00 to NT$28.42. Unless otherwise indicated, in this annual report,

the terms "we", "us", "our company", "our", "the Company" and "Himax" refers to Himax Technologies, Inc., its predecessor entities and subsidiaries;

the term "Himax Taiwan" refers to Himax Technologies Limited, our wholly owned subsidiary in Taiwan and our predecessor;

"shares" or "ordinary shares" refer to our ordinary shares, par value $0.3 per share;

"RSUs" refers to restricted share units;

"ADSs" refers to our American depositary shares, each of which represents two ordinary shares;

"ADRs" refers to the American depositary receipts that evidence our ADSs;

"AR" refers to the augmented reality;

"ROC" or "Taiwan" refers to the island of Taiwan and other areas under the effective control of the Republic of China;

"PRC" or "China" for purposes of this annual report refers to the People's Republic of China, excluding Taiwan and the special administrative regions of Hong Kong and Macau;

"AIoT" refers to Artificial Intelligence & Internet of Things;

"AMOLED" refers to active matrix organic light-emitting diode;

"ASIC" refers to application specific integrated circuit;

"a-Si" refers to amorphous silicon;

“CMOS” refers to complementary metal oxide semiconductor;

“edge computing” refers to a distributed computing paradigm which brings data computation closer to the location it is needed, to reduce power consumption needed for data computation, improve response time and save bandwidth;

“head-mounted-display” refers to a display device, worn on the head or as part of a helmet, that has a small display optic in front of one or each;

“IC” refers to integrated circuit;

“IFRS” refers to The International Financial Reporting Standards as issued by the International Accounting Standards Board;

“IGZO” refers to indium gallium zinc oxide;

“Innolux” refers to Innolux Corporation, its predecessor and consolidated subsidiaries, unless the context otherwise requires;

“LCOS” refers to liquid crystal on silicon;

“LED” refers to light-emitting diode;

“LTPS” refers to low temperature poly silicon;

“MEMS” refers to micro-electro mechanical systems;

“OLED” refers to organic light-emitting diode;

“Structured Light” refers to a 3D infrared structure light projector, which is composed of a laser light source, a collimated lens and a diffractive optics element (DOE);

“SLiM” refers to Structured Light Imaging Module, which is Himax homegrown structured light-based 3D sensing total solution;

“TDDI” refers to touch display driver integrated circuit for advanced in cell touch display;

“TFT-LCD” refers to thin film transistor liquid crystal display that may adopt a-Si, IGZO or LTPS technologies;

“ToF” refers to a time-of-flight (ToF) 3D camera works by illuminating the scene with a modulated light source, and observing the reflected light;

“VGA” refers to Video Graphics Array;

“VR” refers to the virtual reality;

“wafer level optics” or “WLO” are optical products manufactured using semiconductor process on wafers;

“WiseEye®” refers to WiseEye intelligent vision solution is based on Emza’s unique AI-based machine-learning trainable algorithms, on top of Himax’s proprietary computer vision processor and CMOS image sensor – all equipped with ultralow power design;

“WiseEye WE-I Plus” refers to an AI accelerator-embedded ASIC platform solution for application developers to develop and deploy CNN-based machine learning models on AIoT applications including smart home appliances, surveillance systems, etc.;

“processed tape” refers to polyimide tape plated with copper foil that has a circuit formed within it, which is used in tape-automated bonding packaging;

"semiconductor manufacturing service providers" refers to third-party wafer fabrication foundries, gold bumping houses, and assembly and testing houses;

"large-sized panels" refers to panels that are typically above ten inches in diagonal measurement; All sizes of TV, monitor and notebook displays are identified as large.

"small and medium-sized panels" refers to panels that are typically around ten inches or less in diagonal measurement. All sizes of smartphone, automotive and tablet displays are identified as small and medium;

all references to "New Taiwan dollars", "NT dollars" and "NT$" are to the legal currency of the ROC; and all references to "dollars", "U.S. dollars" and "$" are to the legal currency of the United States.

On August 10, 2009, we effected: (i) a stock split in the form of a stock dividend of 5,999 ordinary shares for each ordinary share held by shareholders of record, followed by a consolidation of every 3,000 ordinary shares into one ordinary share; (ii) a change of the par value of our ordinary shares from $0.0001 each to $0.3 each; and (iii) a change in our ADS ratio from one ADS representing one ordinary share to one ADS representing two ordinary shares. See "Item 7.A. Major Shareholders and Related Party Transactions—Major Shareholders" for more information. Unless otherwise indicated, all shares, per share and share equity data in this annual report have been retroactively adjusted to reflect the effect of the stock split and the change in par value for all periods presented.

PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

3.A. Selected Financial Data

The selected consolidated statements of profit or loss data and selected consolidated cash flow data for the years ended December 31, 2018, 2019 and 2020 and the selected consolidated statements of financial position data as of December 31, 2019 and 2020 are derived from our audited consolidated financial statements included herein, which are presented in accordance with International Financial Reporting Standards, or "IFRS", as issued by the International Accounting Standards Board, or "IASB". The selected consolidated statements of profit or loss data and selected consolidated cash flow data for the year ended December 31, 2017 and the selected consolidated statement of financial position data as of December 31, 2017 and 2018, set forth below, is derived from our audited consolidated financial statements not included herein. Since 2018 was the first year of our audited consolidated financial statements prepared in accordance with IFRS, pursuant to the transitional relief granted by the U.S. Securities and Exchange Commission in respect of the first-time adoption of IFRS, we have only provided financial statements and financial information for the financial years ended December 31, 2017, 2018, 2019 and 2020. Additionally, financial data as of and for the year ended December 31, 2016 derived from our consolidated financial statements prepared in accordance with U.S. GAAP has not been included below, and no audited consolidated financial statements and financial information prepared in accordance with IFRS for the year ended December 31, 2016 have been included in this annual report. Historical financial results as of and for the year ended December 31, 2017 have also been adjusted based on IFRS, which differs from the results included in our annual reports on Form 20-F for the year ended December 31, 2017. Our historical results do not necessarily indicate results expected for any future periods.

The selected financial data set forth below should be read in conjunction with "Item 5. Operating and Financial Review and Prospects" and the consolidated financial statements and the notes to those statements included herein.

	Year Ended December 31,			
	2017	2018	2019 [1]	2020
Consolidated Statements of Profit or Loss Data:	(in thousands, except per share data)			
Revenues	$ 685,167	$ 723,605	$ 671,835	$ 887,282
Costs and expenses[2]:				
Cost of revenues	518,142	554,690	533,916	666,501
Research and development	117,662	123,037	114,859	122,265
General and administrative	20,461	21,823	23,672	23,915
Expected credit loss	155	290	67	-
Sales and marketing	20,388	20,380	17,628	16,675
Operating income (loss)	$ 8,359	$ 3,385	$ (18,307)	$ 57,926
Profit (loss) for the year	$ 25,538	$ 6,026	$ (16,184)	$ 45,160
Profit (loss) attributable to Himax stockholders	$ 27,680	$ 8,569	$ (13,614)	$ 47,134

	Year Ended December 31,			
	2017	2018	2019[1]	2020
	(in thousands, except per share data)			
Earnings (loss) per ordinary share attributable to Himax stockholders[3]:				
Basic	$ 0.08	$ 0.02	$ (0.04)	$ 0.14
Diluted	$ 0.08	$ 0.02	$ (0.04)	$ 0.14
Earnings (loss) per ADS attributable to Himax stockholders[3]:				
Basic	$ 0.16	$ 0.05	$ (0.08)	$ 0.27
Diluted	$ 0.16	$ 0.05	$ (0.08)	$ 0.27
Weighted-average number of ordinary shares used in earnings per share computation[3]:				
Basic	344,849	345,020	345,101	345,708
Diluted	344,903	345,069	345,101	346,766
Weighted-average number of ADS equivalent used in earnings per share computation[4]:				
Basic	172,425	172,510	172,550	172,854
Diluted	172,452	172,534	172,550	173,383
Cash dividends declared per ordinary share[5]	$ 0.12	$ 0.05	$ -	$ -
Cash dividends declared per ADS	$ 0.24	$ 0.10	$ -	$ -

Note: (1) Reflects the adoption of the new accounting standard in fiscal year 2019 related to IFRS 16 "Leases".

(2) The amount of share-based compensation included in applicable costs and expenses categories is summarized as follows:

	Year Ended December 31,			
	2017	2018	2019	2020
	(in thousands)			
Cost of revenues	$ 204	$ 90	$ 9	$ 87
Research and development	5,222	3,165	339	4,467
General and administrative	723	387	50	368
Sales and marketing	995	544	59	603
Total	$ 7,144	$ 4,186	$ 457	$ 5,525

Of the $7.1 million, $4.2 million, $0.5 million and $5.5 million in share-based compensation in 2017, 2018, 2019 and 2020, $6.1 million, $3.8 million, nil and $4.8 million were settled in cash, respectively.

(3) Since the Company had net loss for 2019, the unvested RSUs and employee stock options are not being considered with dilutive effect for the year.

(4) The number of ADS equivalent outstanding is determined by dividing the number of ordinary shares by two. The earnings (loss) per ADS is presented solely for the convenience of the reader and does not represent a measure under IFRS.

(5) The above cash dividends should not be considered representative of the dividends that would be paid in any future periods or our dividend policy. See "Item 8.A.8. Financial Information—Dividends and Dividend Policy" for more information on our dividends and our dividend policy.

	As of December 31,			
	2017	2018	2019	2020
	(in thousands)			
Consolidated Statements of Financial Position Data:				
Cash and cash equivalents	$ 138,023	$ 106,437	$ 101,055	$ 184,938
Accounts receivable, net	188,774	189,279	164,943	243,626

	As of December 31,			
	2017	2018	2019	2020
	(in thousands)			
Inventories	135,200	162,561	143,774	108,707
Total current assets	662,621	654,415	604,668	694,411
Total assets	803,193	836,678	818,481	909,818
Accounts payable	139,933	150,500	114,320	171,903
Total current liabilities	343,726	391,155	380,890	352,242
Total liabilities	349,605	394,391	387,237	424,619
Ordinary shares	107,010	107,010	107,010	107,010
Treasury shares	(8,878)	(8,819)	(8,764)	(6,516)
Total equity	453,588	442,287	431,244	485,199

	Year Ended December 31,			
	2017	2018	2019	2020
Consolidated Cash Flow Data:	(in thousands)			
Net cash provided by operating activities	$ 29,393	$ 4,009	$ 7,656	$ 102,610
Net cash used in investing activities	(35,088)	(38,266)	(47,767)	(22,365)
Net cash provided by (used in) financing activities	(41,214)	2,801	35,261	3,261

Note: More detail explanation, please see "Item 5.B. Operating and Financial Review and Prospects—Liquidity and Capital Resources."

3.B. Capitalization and Indebtedness

Not applicable.

3.C. Reason for the Offer and Use of Proceeds

Not applicable.

3.D. Risk Factors

Risks Relating to Our Financial Condition and Business

Our suppliers may have increasing bargaining power as a result of industry consolidation, which could result in an increase in our average unit cost and a decrease in our profit margin.

There may be industry consolidation among our suppliers. Merger and acquisition activities will likely increase the size and market power of the relevant suppliers and reduce the number of suppliers we could use under a simpler supplier chain. Therefore, suppliers could be in a better position to bargain for higher prices, longer contract terms, higher deposit and/or higher contract breach penalties for their services and products, which could result in an increase in our average unit cost and/or penalty expenses. If we are unable to transfer any increase in average unit cost to our customers, our gross margin and results of operations could be adversely affected.

We derive the majority of our net revenues from sales to the TFT-LCD panel industry, which is highly cyclical and subject to price fluctuations. Such cyclicality and price fluctuations could negatively impact our business or results of operations.

In 2019 and 2020, 81.1% and 85.2% of our revenues, respectively, were attributable to display drivers that were incorporated into TFT-LCD panels. We expect to continue to substantially depend on sales to the TFT-LCD panel industry for the foreseeable future. The TFT-LCD panel industry is intensely competitive and is vulnerable to cyclical market conditions. The average selling prices of TFT-LCD panels generally decline with time as a result of, among other factors, end product that incorporating TFT LCD panel demand drop, new capacity ramp-up or factory utilization improvement, technological advancements and cost reduction with the exception of the new high end and high-resolution products.

The merger of certain of our major customers could result in an increase in their bargaining power and therefore subject us to additional downward pricing pressure. We cannot assure you that in such periods in which we experience significant downward pricing pressure, we could sufficiently reduce costs to completely offset the loss of revenues. In addition, a severe and prolonged industry downturn could also result in higher risks to the collectability of our accounts receivable, the marketability and valuation of inventories, the impairment of our long-term non-financial assets, which consist of property, plant and equipment and intangible assets, and the stability of our supply chain. As a result, the cyclicality of the TFT-LCD panel industry could adversely affect our revenues, cost of revenues and results of operations.

Our strategy of expanding our product offerings to non-driver products may not be successful.

We have devoted, and intend to continue to devote, financial and management resources to non-driver products' development, manufacturing and marketing to further diversify our product portfolio and improve gross margin as non-driver products may have higher gross margin than our driver products. Our non-driver technologies cover LCOS microdisplay, Always-on-Sensor ("AoS") CMOS image sensor, wafer level optics ("WLO"), 3D sensing and ultralow power smart sensing, etc.

For our LCOS technology, at present our main focus areas for LCOS business are AR goggle devices and head-up-displays (HUD) for automotive. AoS CMOS image sensor is a specific sensor which consumes only several micro watts to perform people detection, eye ball tracking, and other features. The new sensor architectures, readout, pixel, and the corresponding slim algorithms are integrated together to contribute the always-on feature. For smartphone 3D sensing, we aggressively work with our partners from VCSEL, sensor, module and OEM fields, jointly participate in major ongoing Android smartphone projects covering time-of-flight (ToF) for world-facing camera. On non-smartphone 3D-sensing, with our Structured Light 3D SLiM solution and 3D decoder ASIC key component, we aim at emerging market such as smart door lock, facial recognition-based e-payment, business access control and biomedical inspection device markets. For our ultralow power smart sensing solution, we focus on providing leading edge AI solutions both total solution and discrete key component to meet diversified customer and application needs. For smart sensing total solution, which integrated with our AoS sensor, WE-I edge AI processor and AI-based algorithm from Emza, Himax's subsidiary, or other algorithm partners in ultralow power performance, where the target market is currently on notebook, TV, air conditioner, home appliance, etc. To further broaden market reach, we also joint AI ecosystem and team up with partners to provide the state-of-the-art, low entry barrier edge AI development framework and tools to developers.

Developing and commercializing each of our non-driver products requires a significant amount of management, engineering and monetary resources. For example, we have established certain in-house facilities for key manufacturing processes of our non-driver products including LCOS microdisplay, WLO and 3D sensing. Numerous uncertainties exist in developing new products and we cannot assure you that we will be able to develop our non-driver products successfully. We may underestimate the amount of capital, personnel and other resources required to develop and commercialize our non-driver products. We may also overestimate the market potential of the end products that are utilizing or will utilize our non-driver products. The failure or delay in the development, production or commercialization of any of our non-driver products, the occurrence of any product defects or design flaws, or the low market acceptance of or demand for either of our products or the end devices using our products may adversely affect the impairment of our long-term non-financial assets, which consist of property, plant and equipment and intangible assets, for non-driver products, our results of operations and growth prospects. The lower capacity utilization rate of our factories will negatively affect our gross margin and our results of operations. Moreover, we will be subject to higher ramp-up expenses in the early stage of mass production of our non-driver products.

The concentration of our revenues and accounts receivable and the extension of payment terms for certain of our customers exposes us to increased credit risk and could harm our operating results and cash flows.

In 2020, Customer A and its affiliates accounted for 32.6% of our revenues. Our three largest customers together accounted for over 50% of our revenues in 2020. See "Item 5.A. Operating Results—Description of Certain Statement of Profit or Loss Line Items—Revenues" for our revenues description. Our results of operations and financial condition would be significantly linked to the success and purchase policy of any such customer. As of December 31, 2020, our accounts receivable from Customer A and its affiliates were $88.4 million, which represented approximately 36.3% of our accounts receivable, net. The concentration of our accounts receivable exposes us to increased credit risk. Moreover, we have at times agreed to extend the payment terms for certain of our customers. As a result, any loss of or a sharp reduction in any such customer's sales, a default by any such customer, a prolonged delay in the payment of accounts receivable or the extension of payment terms for our customers could

adversely affect our cash flow, liquidity and our operating results

Our customers may experience a decline in profitability or may not be profitable at all, which could adversely affect our results of operations and financial condition.

TFT-LCD panel manufacturers, including our customers, experience significant pressure on prices and profit margins, due largely to growing industry capacity and fluctuations in demand for TFT-LCD panels. Some panel manufacturers have greater access to capital or greater production, research and development, intellectual property, marketing or other resources than our customers, who may not be able to compete and sustain their market positions. Besides, our customers' business performance may fluctuate significantly due to a number of factors, many of which are beyond their control, including and not limited to: (1) consumer demand and the general economic conditions; (2) the cyclical nature of TFT-LCD industry in average selling price fluctuations, as well as its downstream industries; (3) the speed at which TFT-LCD panel manufacturers expand production capacity; (4) brand companies' continued needs for original equipment manufacturing services provided by TFT-LCD panel manufacturers; (5) access to raw materials, components, equipment and utilities on a timely and economical basis; (6) technological changes; (7) the rescheduling and cancellation of large orders; (8) access to funding on satisfactory terms; and (9) fluctuations in the currencies of TFT-LCD panels exporting countries against the U.S. dollar.

We depend on sales of display drivers used in TFT-LCD panels, and the limited potential for further growth in both the market size of display drivers and the market share of our display drivers or the absence of continued market acceptance of our display drivers could limit our growth in revenues or harm our business.

In 2019 and 2020, 81.1% and 85.2% of our revenues, respectively, from the sale of display drivers used for large, small and medium-sized applications, and we expect to continue to derive a substantial portion of our revenues from these or related products. As the display driver industry is relatively mature, there may be limited potential for the overall display drivers market to grow and for us to further grow our market share and revenues.

Failure to grow our unit shipments for display drivers, coupled with a general decline in the average selling prices, could adversely and materially affect our results of operations. See also "—Risks Relating to Our Industry—The average selling prices of our products could decrease rapidly, which may negatively impact our revenues and operating results". Therefore, the continued market acceptance of our display drivers is critical to our future success. Failure to grow or maintain our revenues generated from the sales of display drivers could adversely and materially affect our results of operations and financial condition.

We face risks related to public health epidemics, including the recent novel coronavirus outbreaks.

Our financial condition and results of operations may be adversely affected if a public health epidemic interferes with our ability, or that of our employees, suppliers, customers and other business partners to perform our and their respective responsibilities and obligations related to the conduct of our business. Since November 2019, a novel strain of coronavirus (Covid-19) has spread across the world. To date, the Covid-19 outbreak has caused significant disruption to the financial markets and international supply chains, which can substantially depress global business activities, restrict access to capital and result in a long-term economic downturn that would negatively affect our operating results.

As a result of the pandemic, numerous unprecedented measures are in place to try to contain the virus, such as travel restrictions, quarantines, stay-at-home and social distancing orders, and shutdowns. These measures may further impact our workforce and operations, the operations of our customers and suppliers. The ultimate impact and efficacy of measures and potential future measures is currently unknown. We have experienced and will experience disruptions to our business operations resulting from quarantines, self-isolations, or other restrictions on the ability of our employees to perform their jobs that may impact our ability to develop and design our products in a timely manner. Our suppliers, sub-contractors and customers have been and will be disrupted by quarantines and social distancing measures, office and factory closures, disruptions to ports and other shipping infrastructure, border closures, or other travel-related restrictions. Depending on the magnitude of such effects on our suppliers' manufacturing, assembling, and testing operations, our supply chain, manufacturing and product shipments will be delayed, which could adversely affect our business, operations and customer relationships.

Despite these dramatic headwinds, in year 2020, due to pandemic lockdown, the work-from-home and learn-from-home new lifestyles triggered increasing display and related display drivers demands. Our business rebounded

strongly throughout the second half of 2020 with fresh demands brought by the new stay-at-home economy. Gross margin in 2020 was 24.9%, up from 20.5% in 2019. The year-over-year improvement was mainly due to strong sales in the second half and a more favorable product mix. The increase of gross margin in 2020 also reflected strong overall demands and better product pricing on rising material costs across foundry, assembly and testing, all undergoing severe capacity shortage. Not meeting all demands, we were able to allocate the limited capacity to the products with better margins. However, with a growing number of vaccinations or after the pandemic is over, the surge demand, the better pricing, the more favorable product mix as well as the better gross margin we enjoy right now may fade away or decreased progressively and could materially and adversely affect our results of operations and financial condition.

Extra export license may be needed for certain product or technology for certain customers. These licenses are regulated by Export Administration Regulations (EAR) which is administered by the U.S. Department of Commerce's Bureau of Industry and Security (BIS)

Our business is subject to various international laws and legal requirements from the U.S. Export Administration Regulations and other's applicable executive orders in packaging, product content, labor and import/export regulations, etc. These laws, regulations and orders are complex, may change frequently and with limited notice, have generally become more rigorous and have intensified under the current U.S. administration, especially in recent geopolitical tensions with China. We may be required to incur significant expense to comply with, or to remedy violations of, these regulations. In addition, if our customers fail to comply with these regulations or our customers are sanctioned, or added to the Entity List of EAR by BIS, we may be required to suspend sales to these customers, which could damage our reputation and materially and adversely impact our results of operations. If our foundry, tape, assembly and testing suppliers fail to comply with these regulations or our suppliers are sanctioned or added to the Entity List of EAR by BIS, we may suspend their services and have to obtain alternative services in a timely manner. Considering the amount of time, it usually takes to qualify assembly and testing houses, we may experience significant delays in product shipments. Any problems that we may encounter with the delivery, quality or cost of our products could damage our reputation and result in a loss of customers and orders. Moreover, the scarcity and importance of services may necessitate us making investments in foundry, tape, assembly and testing service providers in order to secure capacity, which would require us to substantially increase our capital outlays and possibly raise additional capital, which may not be available to us on satisfactory terms, if at all.

Technological innovation may reduce the number of display drivers typically required for each panel, thereby reducing the number of display drivers we are able to sell per panel. If such a reduction in demand is not offset by the general growth of the industry, our market share or average selling prices, or our revenues may decline.

In order to reduce costs, TFT-LCD panel manufacturers generally seek to have display drivers with higher channel counts and new panel designs to reduce the number of display drivers required for each panel. We have been developing such innovative and cost-effective display driver solutions in order to grow our market share, attract additional customers, increase our average selling prices and capture new design wins. However, we cannot assure you that we will successfully achieve these goals. If we fail to do so and the number of display drivers typically required per panel decreases thereby reducing our unit shipments, our revenues may decline. TFT-LCD panel manufacturers have developed several panel designs to reduce the usage of display drivers, including gate in panel, or GIP, amorphous silicon gate, or ASG, or simply gateless designs, which integrate the gate driver function onto the glass and eliminate the need for gate drivers, as well as dual gate and triple gate panel designs, which would largely reduce the usage of source drivers. If such designs or technologies become widely adopted, demand for our display drivers may decrease significantly, which would adversely and materially affect our results of operations.

The strategic relationships between certain of our competitors and their customers and the development of in-house capabilities by TFT-LCD and AMOLED panel manufacturers may limit our ability to expand our customer base and our growth prospects.

Certain of our competitors have established or may establish strategic or strong relationships with TFT-LCD panel manufacturers that are also our existing or potential customers. Marketing our display drivers to such TFT-LCD panel manufacturers that have established relationships with our competitors may be difficult. Moreover, several TFT-LCD panel manufacturers have in-house design capabilities and therefore may not need to source semiconductor products from us. If our customers successfully develop in-house capabilities to design and develop semiconductors that can substitute for our products, they would likely reduce or stop purchasing our products. To sell new products, we will likely need to target new market segments and new customers with whom we do not

have current relationships with, which may require different strategies and may present difficulties that we have not encountered before. Failure to broaden our customer base and attract new customers may limit our growth prospects.

As AMOLED offer brighter color, near-perfect-black, less power consumption and thinner and lighter than TFT-LCD, it gradually penetrates mid to high-end TFT-LCD market, especially the smartphone market. AMOLED display and related DDICs have been dominated by Korean companies. The marketplace is increasing utilization of the OLED display for smartphone and other consumer electronics due to expanded AMOLED capacity as well as increased demand for under-display fingerprint technology that is only available in the AMOLED display for the time being. We are encouraged by the progress we have made, and our development which started from smartphone, and subsequently extended to wearable, tablet and automotive with Chinese panel makers. We believe AMOLED driver ICs will soon become one of the major growth engines for our small and medium display driver IC business. However, we could not assure you the success of our AMOLED driver IC as we are unable to penetrate into the mass volume existing Korean supplier chain and/or find new AMOLED panel manufactures to design-wins our solutions into. AMOLED process maturity for the new manufactures and the possible specification change due to the immaturity of the AMOLED will also be a hurdle to our AMOLED share gain and success.

We depend primarily on third-party foundries to manufacture our wafers, and any failure to obtain sufficient foundry capacity or loss of any of the foundries we use could significantly delay our ability to ship our products, causing us to lose revenues and damage our customer relationships.

Access to foundry capacity is crucial to our business because we do not manufacture our own wafers, instead relying primarily on third-party foundries. The ability of a foundry to manufacture our semiconductor products is limited by its available capacity. Access to capacity is especially important due to the limited availability of the high-voltage CMOS process technology required for the manufacture of wafers used in display drivers. If the primary third-party foundries that we rely upon are not able to meet our required capacity, or if our business relationships with these foundries are adversely affected, we would not be able to obtain the required capacity to meet increasing demand for our products. We may have to seek alternative foundries, which may not be available on commercially reasonable terms, or which may expose us to qualifying-new-foundry risks, as further discussed below.

We use several foundries for different semiconductor products, and certain of our products are manufactured at only one of these foundries. If any one of the foundries is unable to provide the required capacity to us, or does not deliver in a timely manner, or the quality or pricing terms are not acceptable to us, or any of the foundries experience financial difficulties or insolvency risks due to the impact of the global economic turmoil or any company-specific reasons or otherwise, if their operations are damaged or if there is any other disruption, directly or indirectly, of their foundry operations and we may not be able to qualify an alternative foundry in a timely manner, we could experience significant delays in receiving the product being manufactured by that foundry or incur additional costs to obtain substitutes, or interruption in our supply of the affected products. If we choose to use a new foundry or process technology for a particular semiconductor product, it will take us several quarters to qualify the new foundry or process before we can begin shipping. If we cannot qualify a new foundry in a timely manner, we may experience and incur damages as above mentioned and harm our customer relationships.

As a result of outsourcing the manufacturing of our wafers, we face several significant risks, including: (1) failure to secure manufacturing capacity, or being able to obtain required capacity only at higher costs; (2) risks of our proprietary information leaking to our competitors through the foundries we use; (3) limited control of delivery schedules, quality assurance and control, manufacturing yields and wafer costs; (4) the unavailability of, or potential delays in obtaining access to, key process technologies; and (5) financial risks of certain of our foundry suppliers.

To manufacture our display drivers used in TFT-LCD panels, we require foundries with high-voltage CMOS manufacturing process capacity. As a result, our dependence on high-voltage CMOS foundries presents the following, additional risks: (1) potential capacity constraints faced by the limited number of high-voltage CMOS foundries and the lack of investment in new and existing high-voltage CMOS foundries; (2) difficulty in attaining consistently high manufacturing yields from high-voltage CMOS foundries; (3) delay and time required to qualify and ramp up production at new high-voltage CMOS foundries; and (4) price increases.

As a result, we may be required to use foundries with which we have no established relationships, which could expose us to potentially unfavorable pricing, unsatisfactory quality or insufficient capacity allocation. Moreover, the scarcity of high-voltage foundry capacity may necessitate us making investments in foundries in order to secure capacity, which would require us to substantially increase our capital outlays and possibly raise additional capital, which may not be available to us on satisfactory terms, if at all.

Moreover, in year 2020, due to pandemic lockdown, the work-from-home and learn-from-home new lifestyles triggered increasing demands for display and display drivers related products. The surging demand in display drivers caused the severe foundry capacity shortage as a result, while the industry has no major expansion plan for such capacity. On the other hand, major volume applications such as display drivers for TDDI and AMOLED, PMIC for 5G smartphone, and CIS which is continuously upgrading in resolution, are significantly expanding in wafer consumption and competing for the same pool of mature nodes the display drivers adopted. The 8-inch or 180/150nm/110nm process, or the previous driver IC process, as well as the 12-inch or 110/80/55 nm process are all in short capacity supply and constantly increasing in cost. At the meantime, capacity shortage also occurred due to persisting demand and high wafer consumption in 22nm/28nm/40nm or the previous nodes of logic process where Himax Tcon and logic products adopted. This change in production capacity may add risk to our operations throughout the next few years as new product development is forced to switch to the 55 nm, 40 nm, 28 nm or even advanced process which increase new product development expense.

Our inability to secure sufficient capacity from any of our third-party tape, assembly and testing houses at reasonable and competitive prices could disrupt our shipments, harm our customer relationships and reduce our sales.

Access to third-party tape, assembly and testing capacity is critical to our business because we do not have in-house tape, assembly and testing capabilities for commercial production and instead rely on third-party service providers. Access to these services is especially important to our business because display drivers require specialized tape, assembly and testing services. A limited number of third-party tape, assembly and testing houses tape, assemble and test substantially all of our current products. There has been an increased level of industry consolidation among our suppliers in recent years. Therefore, suppliers could be in a better position to bargain for higher prices, longer contract terms, higher deposit and/or higher contract breach penalties for their services and products, which could result in an increase in our average unit cost and/or penalty expenses. We do not have binding long-term supply arrangements with tape, assembly and testing service providers that guarantee us access to our required capacity. If the primary tape, assembly and testing service providers that we rely upon are not able to meet our requirements in price, quality, and service, or if our business relationships with these service providers were adversely affected, we would not be able to obtain the required capacity and would have to seek alternative providers, which may not be available on commercially reasonable terms, or at all. As a result, we do not directly control our product delivery schedules, tape, assembly and testing costs, and quality assurance and control. If any of these third-party tape, assembly and testing houses experiences capacity constraints, financial difficulties, suffers any damage to its facilities or if there is any disruption of its assembly and testing capacity, we may not be able to obtain alternative assembly and testing services in a timely manner. Because of the amount of time we usually take to qualify assembly and testing houses, we may experience significant delays in product shipments if we are required to find alternative sources. Any problems that we may encounter with the delivery, quality or cost of our products could damage our reputation and result in a loss of customers and orders. Moreover, the scarcity and importance of tape, assembly and testing services may necessitate us making investments in tape, assembly and testing service providers in order to secure capacity, which would require us to substantially increase our capital outlays and possibly raise additional capital, which may not be available to us on satisfactory terms, if at all.

Shortages of key components for our customers' products could decrease demand for our products.

Shortages of components and other materials that are critical to the design and manufacture of our customers' products may limit our sales. These components and other materials include, but are not limited to, color filters, backlight modules, polarizers, printed circuit boards and glass substrates. In the past, companies that use our products in their production have experienced delays in the availability of key components from other suppliers. In addition, component manufacturers may not be able to increase or maintain their component supply because of labor shortage in China or otherwise and may shut down certain of their capacity from time to time because of weak demand, which may increase the instability of timely delivery and the risk of shortage of components. Such shortages of components and other materials critical to the design and manufacture of our customers' products may cause a slowdown in demand for our products, resulting in a decrease in our sales and adversely affecting our results of operations. In addition, as a result of uncertain demand conditions, our customers may hesitate to build inventory on hand and tend to release orders on short notice.

We rely on the services of our key personnel, and if we are unable to retain our current key personnel and hire additional personnel, our ability to design, develop and successfully market our products could be harmed.

We rely upon the continued service and performance of a relatively small number of key personnel, including Jordan Wu, our president and chief executive officer, and Dr. Biing-Seng Wu, our chairman, certain engineering, technical and senior management personnel, in particular, who are critical to our corporate management, business operation strategy, operation execution, future technological and product innovations. Competition for these personnel is intense in semiconductor industry in Taiwan. Moreover, our future success depends on the expansion of our senior management team and the retention of key employees. Any of our key employees could leave our company with little or no prior notice and could then work with a competitor. In addition, we do not have "key person" life insurance policies covering any of our employees. The loss of any key personnel or our inability to attract or retain qualified personnel, whether engineers or others, could delay the development and introduction of new products and would have an adverse effect on our ability to sell our products and may impact our overall business and growth. We may also incur increased operating expenses and be required to divert the attention of other senior executives away from their original duties to recruiting replacements for key personnel.

If we fail to forecast customer demand accurately, we may have excess or insufficient inventory, which may increase our operating costs and harm our business.

The lead time required by the semiconductor manufacturing service providers is typically longer than the lead time that our customers provide for delivery of our products to them. To ensure availability of our products for our customers, we will typically ask our semiconductor manufacturing service providers to start manufacturing our products based on forecasts provided by our customers in advance of receiving their purchase orders. However, these forecasts are not binding purchase commitments, and we do not recognize revenues until they are delivered to customers. Moreover, for the convenience of our customers, we may agree to ship our inventory to warehouses located near our customers, so that our products can be delivered to customers more quickly. In such cases, we will not recognize revenues until the control over a product to our customers based on the shipping terms. Hence, we incur inventory and manufacturing costs in advance of anticipated revenues.

The anticipated demand for our products may not materialize; therefore, manufacturing based on customer forecasts exposes us to risks of high inventory carrying costs, increased product obsolescence, and erosion of the products' market value. If we overestimate demand for our products or if purchase orders are cancelled or shipments delayed, we may incur excess inventory that we cannot sell, or may have to sell at low profit margins or even at a loss, which would harm our financial results. Conversely, if we underestimate demand, we may not have sufficient inventory and may lose market share and damage customer relationships, which also could harm our business. These inventory risks are exacerbated by the high level of customization of our products, which limits our ability to sell excess inventory to other customers, which could eventually lead to write-down of these excess inventory.

If we do not achieve additional design wins in the future, our ability to grow will be limited.

Our future success depends on our customers designing our products into their products. To achieve design wins, we must design and deliver cost-effective, innovative, reliable and integrated products for our customers' needs. Panel manufacturer may be reluctant to change its source of components due to the significant costs and time associated with qualifying a new supplier. A design win is not a binding commitment by a customer to purchase our products and may not result in large volume orders of our products. Rather, it is a decision by a customer to use our products in the design process of that customer's products. Accordingly, our failure to successfully design, develop and introduce new products and product enhancements could harm our business, financial condition and results of operations.

Our products are complex and may require modifications to resolve undetected errors or failures in order for them to function with panels at the desired specifications, which could lead to higher costs, customer dispute, a loss of customers or a delay in market acceptance of our products.

Our products are highly complex and may contain undetected errors or failures. Our products must operate according to specifications with the other components used by our customers in their product manufacturing process. If our products are delivered with errors or defects, we could incur additional development, repair or replacement costs, and our credibility and the market acceptance of our products could be harmed and may along with possible liability indemnification for defective, customer dispute and lawsuits against us or our customers.

Our highly integrated products are difficult to manufacture without defects. The existence of defects in our products could increase our costs, decrease our sales and damage our customer relationships and our reputation.

The manufacture of our products that incorporate mixed analog and digital signal processing and embedded memory technology is complex and it is difficult for semiconductor foundries to manufacture completely without defects. Minor deviations in the manufacturing process could cause substantial reduction in yield and quality.

Defective products can be caused by design, defective materials or component parts, or manufacturing difficulties. Thus, quality problems can be identified only by analyzing and testing our display drivers in a system after they have been manufactured. Difficulties in achieving defect-free products due to the increasing complexity of display drivers and the panel system may result in an increase in our costs and expenses, and delays in the availability of our products. In addition, if the foundries that we use fail to deliver products of satisfactory quality in the volume and at the price required, we will be unable to meet our customers' demand or to sell those products at an acceptable profit margin, which could adversely affect our sales and margins and damage our customer relationships and our reputation.

We may not have long-term purchase commitments from our customers, which may result in significant uncertainty and volatility with respect to our revenues and could materially and adversely affect our results of operations and financial condition.

We may not have long-term purchase commitments from our customers; our sales are made on the basis of individual purchase orders. Our customers may also cancel or defer purchase orders. Our customers' purchase orders may vary significantly from period to period, and it is difficult to forecast future order quantities. In the event of a cancellation, postponement, or reduction of an order, we would likely not be able to reduce operating expenses sufficiently so as to minimize the impact of the lost revenues. Alternatively, we may have excess inventory that we cannot sell, which would harm our operating results. In addition, changes in our customers' business may adversely affect the quantity of purchase orders that we receive by reducing or canceling their orders of our products, and/or requesting higher-than-usual price concessions. We cannot assure you that any of our customers will continue to place orders with us in the future. We also cannot assure you that the volume of our customers' orders will be consistent with our expectations when we plan our expenditures. Our results of operations and financial condition may thus be materially and adversely affected. Additionally, the purchase order cancelations or negative alternation by customer may lead to reduction in future earnings or cash flows subject to each event.

Our corporate actions are substantially controlled by officers, directors and affiliated entities who may take actions that are not in, or may conflict with, our or our public shareholders' interests.

As of February 28, 2021, Jordan Wu and Dr. Biing-Seng Wu (who are brothers) beneficially owned approximately 2.1% and 21.4% of our ordinary shares, respectively. For information relating to the beneficial ownership of our ordinary shares, see "Item 7.A. Major Shareholders and Related Party Transactions—Major Shareholders." These shareholders, acting together, could exert substantial influence over matters requiring approval by our shareholders, including electing directors and approving mergers or other business combination transactions. This concentration of ownership may also discourage, delay or prevent a change in control of our company, which could deprive our shareholders of an opportunity to receive a premium for their shares as part of a sale of our company and might reduce the price of our ADSs. Actions may be taken even if they were opposed by our other shareholders.

Assertions against us by third parties for infringement of their intellectual property rights could result in significant costs and cause our operating results to suffer.

The semiconductor industry is characterized by vigorous protection and pursuit of intellectual property rights and positions, which results in protracted and expensive litigation for many companies. We have received, and expect to continue to receive, notices of infringement of third-party intellectual property rights. We may receive claims from various industry participants alleging infringement of their patents, trade secrets or other intellectual property rights in the future. Any lawsuit resulting from such allegations could subject us to significant liability for damages and invalidate our proprietary rights. These lawsuits, regardless of their success, would likely be time-consuming and expensive to resolve and would divert management time and attention. Any potential intellectual property litigation also could force us to do one or more of the following: (1) stop selling products or using technology or manufacturing processes that contain the allegedly infringing intellectual property; (2) pay damages to the party claiming infringement; (3) attempt to obtain a license for the relevant intellectual property, which may not be available on commercially reasonable terms or at all; and (4) attempt to redesign those products that contain the allegedly infringing intellectual property with non-infringing intellectual property, which may not be possible.

The outcome of a dispute may result in our need to develop non-infringing technology or enter into royalty or licensing agreements. We have agreed to indemnify certain customers for certain claims of infringement arising out of the sale of our products. Any intellectual property litigation could have a material adverse effect on our business, operating results or financial condition.

Our ability to compete will be harmed if we are unable to protect our intellectual property rights adequately.

We believe that the protection of our intellectual property rights is, and will continue to be, important to the success of our business. We rely primarily on a combination of patents, trademarks, trade secrets and copyright laws and contractual restrictions to protect our intellectual properties. These afford only limited protection. Despite our efforts to protect our proprietary rights, unauthorized parties may attempt to obtain, copy or use information that we regard as proprietary, such as product design and manufacturing process expertise. Our pending patent applications and any future applications may not result in issued patents or may not be sufficiently broad to protect our proprietary technologies. Moreover, policing any unauthorized use of our products is difficult and costly, and we cannot be certain that the measures which we have implemented will prevent misappropriation or unauthorized use of our technologies, particularly in foreign jurisdictions where the laws may not protect our proprietary rights as fully as the laws of the United States. Others may independently develop substantially equivalent intellectual properties or otherwise gain access to our trade secrets or intellectual properties. Our failure to protect our intellectual properties effectively could harm our business.

We may undertake acquisitions or investments to expand our business that may pose risks to our business and dilute the ownership of our existing shareholders, and we may not realize the anticipated benefits of these acquisitions or investments.

As part of our growth and product diversification strategy, we will continue to evaluate opportunities to acquire or invest in other businesses, intellectual property or technologies that would complement our current offerings, expand the breadth of markets we can address or enhance our technical capabilities. Acquisitions or investments that we have completed or potentially may make in the future entail a number of risks that could materially and adversely affect our business, operating and financial results, including: (1) problems integrating the acquired key employees, operations, technologies or products into our existing business and products; (2) diversion of management's time and attention from our core business; (3) adverse effects of losses of the acquired target upon our financial condition and results of operations; (4) adverse effects on existing business relationships with customers; (5) the need for financial resources above our planned investment levels; (6) dilution of share ownership of current shareholders under share swap transactions; (7) risks associated with entering markets in which we lack experience; (8) potential write-offs of acquired assets; and (9) potential impairment charges related to the goodwill acquired.

We may also face challenges in international acquisitions, such as compliance with local law and regulation, limited access to target company and cultural assimilation challenges. Our failure to address these risks successfully may have a material adverse effect on our financial condition and results of operations. Any such acquisition or investment may require a significant amount of capital investment, which would decrease the amount of cash available for working capital or capital expenditures. In addition, if we use our equity securities to pay for acquisitions, the value of our ADSs and the underlying ordinary shares may be diluted. If we borrow funds to finance acquisitions, such debt instruments may contain restrictive covenants that can, among other things, restrict us from distributing dividends.

System security risks, data protection breaches or unexpected system outage or failures could impact our business.

Our computer systems and networks are vulnerable to damage or interruption from earthquakes, fires, power loss, telecommunications failures, cyber-attacks, computer viruses or other malicious attempts. The reliability and safety of our information technology infrastructure / software, and the ability to continually expand and update technologies / software in response to dynamic changing needs and cybersecurity threats, are critical to our business. In recent years, there are increasing and evolving risks to cybersecurity and privacy, including criminal hackers, state-sponsored intrusions, industrial espionage, employee malfeasance and human / technological errors. All above could result in the loss of our intellectual property, the leak of commercially sensitive information, and the misappropriation of confidential information of our employees, customers and suppliers, and therefore could cause the interruption of our business. Failures to protect the privacy of employees, customers or suppliers' confidential data against breaches of network security could result in the loss of existing or potential customers, other financial loss, and damage to our reputation. In addition, the operational cost and consequences against breaches and

remedial measures could be significant. While we seek to annually review and assess our cybersecurity policies and procedures to ensure the adequacy and effectiveness, we still cannot guarantee that we will not be susceptible to new and emerging risks and attacks in the evolving landscape of cybersecurity threats. As of February 28, 2021, we had not been aware of any material cyberattacks or incidents that had or would expected to have a materially adverse effect on our business and operations, nor had we been involved in any legal proceedings or regulatory investigations related thereof.

Our data centers are subject to the risk of break-ins and sabotage. Our disaster recovery plan cannot account for all eventualities. Consequently, the occurrence of a natural disaster or other unanticipated problems at our data centers could result in loss of production capabilities and lengthy interruptions in our services and business. Some of our system services are based on public cloud services, which are also subject to interruption due to cloud service providers' unexpected downtimes, cyberattacks or any type of failure, telecommunication failure and/or other unidentified problems while connecting to cloud. These cloud services interruptions could result in loss of production capabilities and lengthy interruptions in our services and business. Cloud cybersecurity breach could result in adverse effect on our customers, employees, suppliers, reputation, and business.

Risks Relating to Our Industry

The average selling prices of our products could decrease rapidly, which may negatively impact our revenues and operating results.

The price of each semiconductor product typically declines over its product life cycle, reflecting product obsolescence, decreased demand as customers shift to more advanced products, decreased unit costs due to advanced designs or improved manufacturing yields, and increased competition as more semiconductor suppliers are able to offer similar products. We may experience substantial period-to-period fluctuations in future operating results if our average selling prices decline. We may reduce the average unit price of our products in response to competitive pricing pressures, new product introductions by us or our competitors, and other factors. We expect that these factors will create downward pressure on our average selling prices and operating results. If we are unable to offset any reductions in our average selling prices by increasing our sales volumes and corresponding production cost reductions, or if we fail to develop and introduce new products and enhancements on a timely basis, our revenues and operating results will suffer.

The semiconductor industry, in particular semiconductors used in flat panel displays, is highly competitive, and we cannot assure that we will be able to compete successfully against our competitors.

Increased competition in semiconductor industry may result in pricing pressure, reduced profitability and loss of market share, any of which could seriously harm our revenues and results of operations. We continually face intense competition from fabless display driver companies and integrated device manufacturers. Some of our competitors have substantially greater financial and other resources to pursue engineering, manufacturing, marketing and distribution of their products. As a result, they may be able to respond more quickly to changing customer demands or devote greater resources to the development, promotion and sales of their products. Some of our competitors are affiliated with, or are subsidiaries of, our panel manufacturer customers. These relationships may also give our competitors significant advantages such as early access to product roadmaps and design-in priorities, which would allow them to respond more quickly to changing customer demands and achieve more design-wins than we can. We cannot assure you that we will be able to increase or maintain our revenues and market share or compete successfully against our competitors in the semiconductor industry.

Our business could be materially and adversely affected if we fail to anticipate changes in evolving industry standards, fail to achieve and maintain technological leadership in our industry or fail to develop and introduce new and enhanced products.

Our products are generally based on industry standards, which are continually evolving. The emergence of new industry standards could render our products or those of our customers unmarketable or obsolete and may require us to incur substantial unanticipated costs to comply with any such new standards. Our past sales and profitability have resulted, to a significant extent, from our ability to anticipate changes in technology and industry standards, and to develop and introduce new and enhanced products in a timely fashion. If we do not anticipate these changes in technologies and rapidly develop and introduce new and innovative technologies, we may not be able to provide advanced display semiconductors on competitive terms, and some of our customers may buy products from our competitors instead of from us. Our continued ability to adapt to such changes and anticipate future standards will

be a significant factor in maintaining or improving our competitive position and our growth prospects. We cannot assure you that we will be able to anticipate evolving industry standards, successfully complete the design of our new products, have these products manufactured at acceptable manufacturing yields, or obtain significant purchase orders for these products to meet new standards or technologies. If we fail to anticipate changes in technology and to introduce new products that achieve market acceptance, our business and results of operations could be materially and adversely affected.

Risks Relating to Our Holding Company Structure

Our ability to receive dividends and other payments or funds from our subsidiaries may be restricted by commercial, statutory and legal restrictions, and thereby materially and adversely affect our ability to grow, fund investments, make acquisitions, pay dividends and otherwise fund and conduct our business.

We are a holding company and our assets consist mainly of our 100% ownership interest in Himax Taiwan. We receive cash from Himax Taiwan through intercompany borrowings. Himax Taiwan has not paid us cash dividends in the past. Nonetheless, dividends and interest on shareholder loans that we receive from our subsidiaries in Taiwan, if any, will be subject to withholding tax under ROC law. The ability of our subsidiaries to provide us with loans, pay dividends, repay any shareholder loans from us or make other distributions to us is restricted by, among other things, the availability of funds, the terms of various credit arrangements entered into by our subsidiaries, as well as statutory and other legal restrictions. Any limitation on dividend payments by our subsidiaries could materially and adversely affect our ability to grow, finance capital expenditures, make acquisitions, pay dividends, and otherwise fund and conduct our business.

Political, Geographical and Economic Risks

We operate primarily in Taiwan that are vulnerable to natural disasters.

Most of our operations, and the operations of many of our semiconductor manufacturing service providers, suppliers and customers are located in Taiwan, which is vulnerable to natural disasters, in particular, earthquakes and typhoons. Our principal foundries, tape and assembly and testing houses upon which we have relied to manufacture substantially all of our display drivers are located in Taiwan. As a result of this geographic concentration, disruption of operations at our facilities or the facilities of our semiconductor manufacturing service providers and suppliers for any reason, including work stoppages, power outages, water supply shortages, fire, typhoons, earthquakes or other natural disasters, could cause delays in production and shipments of our products. In addition, shortages or interruptions in electricity supply could further be exacerbated by changes in the energy policy of the government, such as to make Taiwan a nuclear-free country. Any delays or disruptions could result in our customers seeking to source products from our competitors. If such disruption of operation at our customers' facilities and our customers may be required to shut down temporarily or to substantially reduce the operations of their fabs, these would seriously affect demand for our products.

Disruptions in Taiwan's political environment could negatively affect our business and ADSs market price.

Our principal executive offices and a substantial amount of our assets are located in Taiwan, and a substantial portion of revenues is derived from operations in Taiwan. Our business, financial condition and results of operations and our ADSs market price may be affected by changes in ROC policies, taxation, inflation or interest rates, and by social instability and diplomatic that are outside of our control.

Taiwan has a unique international political status. Since 1949, Taiwan and the PRC have been separately governed. The government of the PRC claims that it is the sole government in China and that Taiwan is part of China. Although significant economic and cultural relations have been established during recent years between Taiwan and the PRC, the PRC government has refused to renounce the possibility that it may at some point use force to gain control over Taiwan. Furthermore, the PRC government adopted an anti-secession law relating to Taiwan. Relations between the ROC and the PRC governments have been strained in recent years for a variety of reasons, including the PRC government's position on the "One China" policy and tensions concerning arms sales to Taiwan by the United States government. Any tension between the ROC and the PRC, or between the United States and the PRC, could materially and adversely affect our ADSs market prices.

A substantial portion of our sales are made to customers in the PRC, which may expose us to additional political, regulatory, and economic risks.

We have been increasingly selling our products to customers in the PRC. In 2019 and 2020, approximately 70.3% and 79.7% of our revenues, respectively, were from customers headquartered in the PRC. We expect to continue to increase our sales to customers in the PRC in the future. With regional customer concentration, we are particularly subject to economic and political events and other developments that affect our customers in the PRC.

The PRC economy differs from the economies of most developed countries in many respects, including the structure, level of government involvement, level of development, foreign exchange control and allocation of resources. The PRC economy has been transitioning from a planned economy to a more market-oriented economy and is growing rapidly. For the past two decades, the PRC government has implemented economic reform measures emphasizing utilization of market forces in the development of the economy and also adjusted its macroeconomic control policies from time to time. These policies have led and may continue to lead to changes in market conditions. Besides, US sanction on China, any new tariffs, legislation and/or regulations are implemented, or if existing trade agreements are renegotiated or, in particular, if the U.S. government takes retaliatory trade actions due to recent U.S.-China trade tensions, such changes could have an adverse effect on our customers or suppliers in China. We cannot predict whether changes in the PRC's political, economic and social conditions, laws, regulations and policies will have any adverse effect on our customers in the PRC. In addition, the interpretation of PRC laws and regulations involves uncertainties. We cannot assure you that changes in such laws and regulations, or in their interpretation and enforcement, will not have a material adverse effect on the businesses and operations of our customers in the PRC and consequently have a material adverse effect on our business and operations.

Fluctuations in exchange rates could result in foreign exchange losses and affect our results of operations.

Our functional and reporting currency is U.S. dollars. In 2020, more than 99% of our revenues and cost of revenues were denominated in U.S. dollars. However, we have foreign currency exposure and are primarily affected by fluctuations in exchange rates between the U.S. dollar and the NT dollar. This is because a majority portion of our employees and facilities are based in Taiwan and operating expenses are denominated in NT dollars and we maintain a portion of our cash in NT dollars for Taiwan working capital purposes. For example, in December 2020, approximately 76% of our operating expenses were denominated in NT dollars, with a small percentage denominated in Japanese Yen, Korean Won, Israel new shekel and Chinese Renminbi, and the majority of the remainder in U.S. dollars. As a result, any significant fluctuations to our disadvantage in exchange rate of U.S. dollars against such currencies, in particular a weakening of U.S. dollar against NT dollar, would have an adverse impact on our operating expenses as expressed in U.S. dollar and adversely affected operating profit.

Changes in ROC tax laws would likely increase our tax expenditures and decrease our net income.

The Statute for Industrial Innovation entitles companies to tax credits for qualifying research and development expenses related to innovation activities but limits the amount of tax credit to only up to 15% of the total qualifying research and development expenditure for the current year, subject to a cap of 30% of the income tax payable for the current year. Moreover, any unused tax credits provided under the Statute for Industrial Innovation may not be carried forward. Based on the amendments to the above, effective from January 1, 2016 to December 31, 2019, further extended to December 31, 2029, if companies choose to extend the tax credits to three years, the tax credit rate will be 10% of the total qualifying research and development expenditure for the current year and subject to a cap of 30% of the income tax payable for each year.

According to the amendments to the "Income Tax Act" enacted by the office of the President of the ROC on February 7, 2018, an increase in the statutory income tax rate from 17% to 20% and decrease in the undistributed earning tax from 10% to 5% are effective from January 1, 2018. This increase affected the Company's current tax expense from 2018, and deferred taxes were remeasured in 2018, the period of enactment.

On July 12, 2016, the ROC Legislative Yuan passed the third reading of anti-avoidance to establish Article 43-3 Controlled Foreign Company ("CFC") rules and Article 43-4 Place of Effective Management ("PEM") rules of the Income Tax Act ("ITA"). Detailed introduction of the CFC and PEM rules are described as follows:

(i) A profit-seeking enterprise ("PSE") that directly or indirectly owns affiliated enterprises in low-tax jurisdictions outside the territory of the ROC shall recognize and include its pro rata share of affiliated enterprises' annual profits as investment income in its income tax return for the year. Subsequent actual dividends and distributions from such affiliated enterprises that were previously recognized as investment income will then not be subject to income taxation; any surplus to previously recognized

investment income shall be included as taxable income in the allocated year. Low-tax jurisdictions are defined as countries where the PSE income tax rate is lower than 70% of the income tax rate of the PSE in the ROC (the statutory income tax rate is 20% from January 1, 2018) (Article 43-3 CFC rules); and

(ii) A PSE is incorporated based on foreign legislation but its place of effective management (PEM) is maintained within the territory of the ROC, and the head office of such PSE will be determined to be within the territory of the ROC and profit-seeking enterprise income tax shall be levied in accordance with the ITA and relevant tax regulations. The aforementioned PEM refers to a place where substantive key management and commercial decisions of an entity's business and its operations are made (Article 43-4 PEM rule).

According to the legislative intent, the CFC and PEM rules, in principle, will not be put into force immediately, but will wait until the China-Taiwan Cross-Strait Tax Agreement is effectuated, the OECD's Common Reporting and Due Diligence Standard ("CRS") for the automatic exchange of information of financial accounts is widely implemented internationally, and the relevant bylaws of the CFC and PEM rules have been adequately enacted and properly advocated. The date of implementation will be determined by the Executive Yuan. Additionally, dividend payments made by us are not subject to withholding tax in the Cayman Islands. However, if the relevant bylaws of the PEM rules have been adequately enacted and properly advocated, we may be determined to be within the territory of the ROC and our income tax shall be levied in accordance with the Income Tax Act and relevant tax regulations. Therefore, dividend payments made by us would be subject to withholding tax in the ROC.

We may be affected by the Cayman Economic Substance Law

Pursuant to the International Tax Co-operation (Economic Substance) Act (2021 Revision) (as amended) of the Cayman Islands (the "ES Act"), a "relevant entity" is required to satisfy the economic substance test set out in the ES Act. A "relevant entity" includes an exempted company incorporated in the Cayman Islands as is our company. Based on the current interpretation of the ES Act, we believe that our company, Himax Technologies, Inc., is a pure equity holding company since it only holds equity participation in other entities and only earns dividends and capital gains.

Accordingly, for so long as our company is a "pure equity holding company", it is only subject to the minimum substance requirements, which require us to (i) comply with all applicable filing requirements under the Companies Act (2021 Revision) of the Cayman Islands; and (ii) has adequate human resources and adequate premises in the Cayman Islands for holding and managing equity participations in other entities. However, there can be no assurance that we will not be subject to more requirements under the ES Act. Uncertainties over the interpretation and implementation of the ES Act may have an adverse impact on our business and operations.

Risks Relating to Our ADSs and Our Trading Market

The market price for our ADSs is volatile.

The market price for our ADSs is volatile and has ranged from a low of $1.73 to a high of $8.3 on the NASDAQ Global Select Market in 2020.

The market price is subject to wide fluctuations in response to various factors, including the following: (1) actual or anticipated fluctuations in our quarterly operating results; (2) changes in financial estimates by securities research analysts; (3) changes in the expectation of our product launch timing, forecast and estimates; (4) conditions in the TFT-LCD panel market; (5) changes in the economic performance or market valuations of other display semiconductor companies; (6) announcements by us or our competitors of new products, acquisitions, strategic partnerships, joint ventures or capital commitments; (7) the addition or departure of key personnel; (8) fluctuations in exchange rates between the U.S. dollar and the NT dollar; (9) litigation related to our intellectual property; and (10) the release of lock-up or other transfer restrictions on our outstanding ADSs or sales of additional ADSs.

In addition, as a result of the worldwide financial crisis, global stock markets have experienced extreme price and volume fluctuations. This volatility has had a significant effect on the market prices of securities issued by many companies for reasons which may not be directly related to their operating performance, including but not limited to events such as tax-loss selling, mutual fund redemptions, hedge fund redemptions and margin calls. These market fluctuations may also materially and adversely affect the market price of our ADSs.

Future sales or perceived sales of securities by us, our executive officers, directors or major shareholders may hurt the price of our ADSs.

The market price of our ADSs could decline as a result of sales of ADSs or shares or the perception that these sales could occur. As of February 28, 2021, we had 348,178,330 outstanding shares and a significant number of our shares were beneficially owned by certain major shareholders such as our directors and executive officers. See "Item 7.A. Major Shareholders and Related Party Transactions—Major Shareholders." If we, our executive officers, or directors or our shareholders sell ADSs or shares, the market price for our shares or ADSs could decline.

You may not have the same voting rights as the holders of our ordinary shares and may not receive voting materials sufficiently in advance to be able to exercise your right to vote.

Except as described in the deposit agreement, holders of our ADSs will not be able to exercise voting rights attaching to the shares evidenced by our ADSs on an individual basis. Holders of our ADSs will appoint the depositary or its nominee as their representative to exercise the voting rights attaching to the shares represented by the ADSs. In certain circumstances, the depositary shall refrain from voting and any voting instructions received from ADS holders shall lapse. Furthermore, in certain other circumstances, the depositary will give us a discretionary proxy to vote shares evidenced by ADSs. You may not receive voting materials sufficiently in advance to instruct the depositary to vote or persons who hold their ADSs through brokers, dealers or other third parties will not have the opportunity to exercise a right to vote.

You may not be able to participate in rights offerings and may experience dilution of your holdings as a result.

We may from time to time distribute rights to our shareholders, including rights to acquire our securities. Under the deposit agreement for the ADSs, the depositary will not offer those rights to ADS holders unless both the rights and the underlying securities to be distributed to ADS holders are either registered under the Securities Act, or exempt from registration under the Securities Act with respect to all holders of ADSs. We are under no obligation to file a registration statement with respect to any such rights or underlying securities or to endeavor to cause such a registration statement to be declared effective. In addition, we may not be able to take advantage of any exemptions from registration under the Securities Act. Accordingly, holders of our ADSs may be unable to participate in our rights offerings and may experience dilution in their holdings as a result.

You may be subject to limitations on transfer of your ADSs.

Your ADSs represented by the ADRs are transferable on the books of the depositary. However, the depositary may close its transfer books at any time or from time to time whenever it deems expedient in connection with the performance of its duties. In addition, the depositary may refuse to deliver, transfer or register transfers of ADSs generally when books or the books of the depositary are closed, or at any time if we or the depositary deem it necessary or advisable to do so because of any requirement of law, any government, governmental body, commission, or any securities exchange on which our ADSs or ordinary shares are listed, or under any provision of the deposit agreement or provisions of, or governing, the deposited securities or any meeting of our shareholders, or for any other reason.

Your ability to protect your rights through the United States federal courts may be limited, because we are incorporated under Cayman Islands law, conduct a substantial portion of our operations in Taiwan, and all of our directors and officers reside outside the United States.

We are incorporated in the Cayman Islands. However, a substantial portion of our operations is conducted in Taiwan through Himax Taiwan, our wholly owned subsidiary, and substantially all of our assets are located in Taiwan. All of our directors and officers reside outside the United States, and a substantial portion of the assets of those persons is located outside the United States. As a result, it may be difficult or impossible for you to bring an action against us or against these individuals in the United States in the event that you believe that your rights have been infringed under the securities laws or otherwise. Even if you are successful in bringing an action of this kind, the laws of the Cayman Islands and of Taiwan may render you unable to enforce a United States judgment against our assets or the assets of our directors and officers. There is no statutory recognition in the Cayman Islands of judgments obtained in the United States, although a final and conclusive judgment in the federal or state courts of the United States under which a sum of money is payable, other than a sum payable in respect of multiple damages, taxes, or other charges of a like nature or in respect of a fine or other penalty, may be subject to enforcement proceedings as debt in the courts of the Cayman Islands under the common law doctrine of obligation, provided that

(a) such federal or state courts of the United States had proper jurisdiction over the parties subject to such judgment; (b) such federal or state courts of the United States did not contravene the rules of natural justice of the Cayman Islands; (c) such judgment was not obtained by fraud; (d) the enforcement of the judgment would not be contrary to the public policy of the Cayman Islands; (e) no new admissible evidence relevant to the action is submitted prior to the rendering of the judgment by the courts of the Cayman Islands; and (f) there is due compliance with the correct procedures under the laws of the Cayman Islands.

Therefore, our public shareholders may have more difficulty in protecting their interests through actions against our management, directors or major shareholders than shareholders of a corporation incorporated in a jurisdiction in the United States.

You may face difficulties in protecting your interests as a shareholder because judicial precedents regarding shareholders' rights are more limited under Cayman Islands law than under U.S. law, and because Cayman Islands law generally provides less protection to shareholders than U.S. law.

Our corporate affairs are governed by memorandum and articles of association, the Companies Law, Cap. 22 (Law 3 of 1961, as consolidated and revised) of the Cayman Islands, or the Cayman Islands Companies Law, and the common law of the Cayman Islands. The rights of shareholders to take action against directors, actions by minority shareholders and the fiduciary responsibilities of our directors to us under Cayman Islands law are to a large extent governed by the common law of the Cayman Islands. The common law is derived in part from comparatively limited judicial precedent in the Cayman Islands as well as from English common law, which has persuasive, but not binding, authority on a court in the Cayman Islands. The rights of shareholders and the fiduciary responsibilities of directors under Cayman Islands law are not as clearly established as they would be under statutes or judicial precedent in some jurisdictions in the United States. In particular, the Cayman Islands have a less developed body of securities law than the United States.

ITEM 4. INFORMATION ON THE COMPANY

4.A. History and Development of the Company

Himax Taiwan, our predecessor, was incorporated on June 12, 2001 as a limited liability company under the laws of the ROC. On April 26, 2005, we established Himax Technologies Limited, an exempted company with limited liability under the Cayman Islands Companies Law, as a holding company to hold the shares of Himax Taiwan in connection with our reorganization and share exchange. On October 14, 2005, Himax Taiwan became our wholly owned subsidiary through a share exchange consummated pursuant to the ROC Business Mergers and Acquisitions Law through which we acquired all of the issued and outstanding shares of Himax Taiwan, and we issued ordinary shares to the shareholders of Himax Taiwan. Shareholders of Himax Taiwan received one of our ordinary shares in exchange for one Himax Taiwan common share. The share exchange was unanimously approved by shareholders of Himax Taiwan on June 10, 2005 with no dissenting shareholders and by the ROC Investment Commission on August 30, 2005 for our inbound investment in Taiwan, and on September 7, 2005 for our outbound investment outside of Taiwan. We effected this reorganization and share exchange to comply with ROC laws, which prohibit a Taiwan incorporated company not otherwise publicly listed in Taiwan from listing its shares on an overseas stock exchange. Our reorganization enables us to maintain our operations through our Taiwan subsidiary, Himax Taiwan, while allowing us to list our shares overseas through our holding company structure.

On September 26, 2005, we changed our name to "Himax Technologies, Inc.," and on October 17, 2005, Himax Taiwan changed its name to "Himax Technologies Limited" upon the approval of shareholders of both companies and amendments to the respective constitutive documents. We effected the name exchange in order to maintain continuity of operations and marketing under the trade name "Himax Technologies, Inc.," which had been previously used by Himax Taiwan.

Our ADSs have been listed on the NASDAQ Global Select Market since March 31, 2006. Our ordinary shares are not listed or publicly traded on any trading markets.

In February 2007, we completed the acquisition of Wisepal, currently known as Himax Semiconductor, Inc., a fabless semiconductor company focusing on the development of LTPS TFT-LCD drivers for small and medium-sized applications. This transaction strengthened our competitive position in the small and medium-sized product areas and further diversified our technology and product offerings. For management purpose, Himax Semiconductor Inc. was merged into Himax Taiwan on July 2, 2018.

In March 2007, we established Himax Imaging, Inc., or Himax Imaging, which develops and markets CMOS image sensors with an initial focus on camera applications used in cell phones and notebook computers.

In July 2012, our subsidiary, Himax Display, completed the acquisition of Spatial Photonics, currently known as Himax Display (USA) Inc., a Delaware corporation engaged in the business of manufacturing and production of MEMS products.

In June 2018, we completed the acquisition of Emza Visual Sense Ltd., or Emza, which is dedicated to the development of visual sensors that include proprietary machine-vision algorithms and specific architectures that enable always-on visual sensing capabilities, achieving improvement in power consumption, price and form factor. From time to time, we have also made minority investments in various companies for strategic purposes in the ordinary course of business.

Our principal executive offices are located at No. 26, Zih Lian Road, Sinshih District, Tainan City 74148, Taiwan, Republic of China. Our telephone number at this address is +886-6-505-0880. Our registered office in the Cayman Islands is located at Cricket Square, Hutchins Drive, P.O. Box 2681, Grand Cayman KY1-1111, Cayman Islands. Our telephone number at this address is +1-345-945-3901. In addition, we have offices in Hsinchu and Taipei, Taiwan; Foshan, Fuqing, Ningbo, Beijing, Shanghai, Shenzhen, Suzhou, Wuhan, Hefei, Qingdao, Chongqing, Xi'an and Xiamen, China; Tokyo, Japan; Asan-si and Bundang-gu, South Korea; Givatayim, Israel; and Irvine and Campbell, California and Minneapolis, Minnesota, USA.

Investor inquiries should be directed to our Investor Relations department by email to hx_ir@himax.com.tw. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The address of the SEC's Internet site is http://www.sec.gov. Our website is www.himax.com.tw. The information contained on our website is not part of this annual report.

4.B. Business Overview

We are a fabless semiconductor solution provider dedicated to display imaging processing technologies. We are a worldwide market leader in display driver ICs and timing controllers used in TVs, laptops, monitors, mobile phones, tablets, automotive, digital cameras, car navigation, virtual reality (VR) devices and many other consumer electronics devices. Additionally, we design and provide controllers for touch sensor displays, in-cell Touch and Display Driver Integration (TDDI) single-chip solutions, LED driver ICs, power management ICs and LCOS micro-displays for augmented reality (AR) devices and head-up displays (HUD) for automotive. We also offer CMOS image sensors, wafer level optics for AR devices, 3D sensing and ultralow power smart sensing, which are used in a wide variety of applications such as mobile phone, tablet, laptop, TV, PC camera, automobile, security, medical devices, home appliance, AIoT etc. For display drivers and display-related products, our customers are panel manufacturers, agents or distributors, module manufacturers, assembly houses or end customers. We also work with camera module manufacturers, optical engine manufacturers, and television system manufacturers for various non-driver products.

Industry Background

We mainly operate in the flat panel display semiconductor industry. As the majority of our revenues derive from products that are critical components of flat panel displays, such as display drivers, timing controllers, power ICs and other semiconductor products, our industry is closely linked to the trends and developments of the flat panel display industry.

Flat Panel Display Semiconductors

Flat panel displays require different semiconductors depending upon the display technologies and the applications. Some of the most important ones include the following:

- *Display Driver.* The display driver receives image data from the timing controller and delivers precise analog voltages or currents to create images on the display. The major application of display driver IC is used on TFT-LCDs. However, AMOLED display is also getting more and more popular in recently years, starting from high-end smartphone and TV applications. Detailed display driver IC specification for LCD and AMOLED are different due to panel characteristics. The two main types of display drivers for a display panel are gate drivers and source drivers. Gate drivers turn on the transistor within each pixel cell on the

horizontal line on the panel for data input at each row. Source drivers receive image data from the timing controller and generate voltage that is applied to the liquid crystal within each pixel cell on the vertical line on the panel for data input at each column. The combination determines the colors generated by each pixel. Typically, multiple gate drivers and source drivers are installed separately on the panel. However, for certain small and medium-sized applications, gate drivers and source drivers are integrated into a single chip due to space and cost considerations. Large-sized panels typically have higher resolution and require more display drivers than small and medium-sized panels.

- *Timing Controller.* The timing controller receives image data and converts the format for the source drivers' input. The timing controller also generates controlling signals for gate and source drivers. Typically, the timing controller is a discrete semiconductor in large-sized TFT-LCD panels. For certain small and medium-sized applications, however, the timing controller may be integrated with display drivers.

- *Operational Amplifier.* An operational amplifier supplies the reference voltage to source drivers in order to make their output voltage uniform.

- *Power IC.* Power ICs include certain drivers, amplifiers, DC to DC converters and other semiconductors designed to enhance power management, such as voltage regulation, voltage boosting and battery management.

- *Touch controller IC.* For touch screen applications, touch controller ICs enable touch interfaces, such as capacitive touch panels, to identify, qualify and track user's contacts with precision and sensibility.

- *Others*. Flat panel displays also require multiple general purposes semiconductors such as memory, power converters and inverters.

Characteristics of the Display Driver Market

Although we operate in several distinct segments of the flat panel display semiconductor industry, our principal products are display drivers. Display drivers are critical components of flat panel displays. The display driver market has specific characteristics, including those discussed below.

Concentration of Panel Manufacturers

The global TFT-LCD panel industry consists of a small number of manufacturers, substantially all of which are based in Asia. In recent years, Korean TFT-LCD panel makers gradually undergo restructure to shift their technology and manufacture focus from TFT-LCD to OLED and TFT-LCD panel manufacturers, especially China-based manufacturers, have invested or are planning to invest heavily to establish, construct and ramp up additional fab capacity. The capital-intensive nature of the industry often results in TFT-LCD panel manufacturers operating at a high level of capacity utilization in order to reduce unit costs. This tends to create a temporary oversupply of panels, which reduces the average selling price of panels and puts pricing pressure on component companies including display driver companies. Moreover, the concentration of panel manufacturers permits major panel manufacturers to exert pricing pressure on display driver companies such as us. The small number of panel manufacturers exacerbates this situation as display driver companies, in addition to seeking to expand their customer base, must also focus on winning a larger percentage of such customers' display driver requirements.

Customization Requirements

Each panel display has a unique pixel design to meet its particular requirements. To optimize the panel's performance, display drivers have to be customized for each panel design. The most common customization requirement is for the display driver company to optimize the gamma curve of each display driver for each panel design. Display driver companies must work closely with their customers to develop semiconductors that meet their customers' specific needs in order to optimize the performance of their products.

Mixed-Signal Design and High-Voltage CMOS Process Technology

Display drivers have specific design and manufacturing requirements that are not standard in the semiconductor industry. Some display drivers require mixed-signal design since they combine both analog and digital devices on a single semiconductor to process both analog signals and digital data. Manufacturing display drivers require high-

voltage CMOS process technology operating typically at 4.5 to 24 volts for source drivers and 10 to 50 volts for gate drivers, levels of voltage which are not standard in the semiconductor industry. For display drivers, the driving voltage must be maintained under a very high degree of uniformity, which can be difficult to achieve using standard CMOS process technology. Moreover, manufacturing display drivers does not require very small-geometry semiconductor processes. Typically, the manufacturing process for large panel display drivers require geometries between 0.11 micron and 1 micron because the physical dimensions of a high-voltage device do not allow for the economical reduction in geometries below this range. We believe that there are a limited number of fabs with high-voltage CMOS process technology that are capable of high-volume manufacturing of display drivers.

Special Assembly and Testing Requirements

Manufacturing display drivers requires certain assembly and testing technologies and equipment that are not standard for other semiconductors and are offered by a limited number of providers. The assembly of display drivers typically uses either tape-automated bonding, also known as TAB, or chip-on-glass, also known as COG, technologies. Display drivers also require gold bumping, which is a process in which gold bumps are plated onto each wafer to connect the die and the processed tape, in the case of TAB packages, and the glass, in the case of COG packages. TAB may utilize tape carrier packages, also known as TCP, or chip on film, also known as COF. The type of assembly used depends on the panel manufacturer's design, which is influenced by panel size and application and is typically determined by the panel manufacturers. Display drivers for large-sized applications typically require TAB package and, to a lesser extent, COG package types, whereas display drivers for smartphone, tablet and consumer electronics products typically require COG packages. The testing of display drivers also requires special testers that can support high-channel and high-voltage output semiconductors. Such testers are not standard in the semiconductor industry.

Supply Chain Management

The manufacturing of display drivers is complex and requires several manufacturing stages such as wafer fabrication, gold bumping, and assembly and testing, and the availability of materials such as the processed tape used in TAB packaging. We refer to these manufacturing stages and material requirements collectively as the "supply chain". Panel manufacturers typically operate at high levels of capacity utilization and require a reliable supply of display drivers. A shortage of display drivers, or a disruption to this supply, may disrupt panel manufacturers' operations. As a result, a company's ability to deliver its products on a timely basis at the quality and quantity required is critical to satisfying its existing customers and winning new ones. Such supply chain management is particularly crucial to fabless display driver companies that do not have their own in-house manufacturing capacity. In the case of display drivers, supply chain management is further complicated by the high-voltage CMOS process technology and the special assembly and testing requirements that are not standard in the semiconductor industry. Access to this capacity also depends in part on display driver companies having received assurances of demand for their products since semiconductor manufacturing service providers require credible demand forecasts before allocating capacity among customers and investing to expand their capacity to support growth.

Need for Higher Level of Integration

The small form factor of smartphone, tablet, automotive and certain consumer electronics products restricts the space for components. Small and medium-sized panel applications typically require one or more source drivers, one or more gate drivers and one timing controller, which can be installed as separate semiconductors or as an integrated single-chip driver. Customers are increasingly demanding higher levels of integration in order to manufacture more compact panels, simplify the module assembly process and reduce unit costs. Display driver companies must be able to offer highly integrated chips that combine the source driver, gate driver and timing controller, as well as semiconductors such as memory, power circuit and image processors, into a single chip. Due to the size restrictions and stringent power consumption constraints of such display drivers, single-chip drivers are complex to design. For large-sized panel applications, integration is both more difficult to achieve and less important since size and weight are less of a priority. Lastly, as some of our TFT-LCD panel customers had turned to pure in-cell TDDI panel development for thinner display designs, we have developed a series of single chip touch display driver integrated circuit (TDDI) for advanced in-cell touch display panel.

Products and Solutions

We have several principal product lines:

- display drivers and timing controllers;
- touch controller ICs;
- ASIC service;
- LCOS and MEMS products;
- power ICs;
- CMOS image sensor products;
- wafer level optics products;
- 3D sensing business; and
- Ultralow power smart sensing.

Display Drivers and Timing Controllers

Display Driver Characteristics

Display drivers deliver precise analog voltages and currents that activate the pixels on panels. The following is a summary of certain display driver characteristics and their relationship to panel performance.

- *Resolution and Number of Channels.* Resolution refers to the number of pixels per line multiplied by the number of lines, which determines the level of fine detail within an image displayed on a panel. For example, a color display screen with 1,024 x 768 pixels has 1,024 red columns, 1,024 green columns and 1,024 blue columns for a total of 3,072 columns and 768 rows. The red, green and blue columns are commonly referred to as "RGB." Therefore, the display drivers need to drive 3,072 column outputs and 768 row outputs. The number of display drivers required for each panel depends on the resolution of the panel and the number of channels per display driver. For example, an XGA (1,024 x 768 pixels) panel requires eight 384-channel source drivers (1,024 x 3 = 384 x 8) and three 256-channel gate drivers (768 = 256 x 3), while a full HD (1,920 x 1,080 pixels) panel requires eight 720-channel source drivers and four 270-channel gate drivers. The number of display drivers required can be reduced by using drivers with a higher number of channels. For example, a full HD panel can have six 960-channel source drivers instead of eight 720-channel source drivers. Thus, using display drivers with a higher number of channels can reduce the number of display drivers required for each panel, although display drivers with a higher number of channels typically have higher unit costs.

- *Color Depth.* Color depth is the number of colors that can be displayed on a screen, which is determined by the number of shades of a color, also known as gray scale, that can be shown by the panel. For example, a 6-bit source driver is capable of generating 2^6 x 2^6 x 2^6 = 2^{18}, or 262K colors, and similarly, an 8-bit source driver is capable of generating 16 million colors. Typically, for TFT-LCD panels currently in commercial production, 262K, 16 million and 1 billion colors are supported by 6-bit, 8-bit and 10-bit source drivers, respectively.

- *Operational Voltage.*A display driver operates with two voltages: the input voltage (which enables it to receive signals from the timing controller) and the output voltage (which, in the case of source drivers, is applied to liquid crystals and, in the case of gate drivers, is used to switch on the TFT device). Source drivers typically operate at input voltages from 3.3 to 1.8 volts and output voltages ranging from 4.5 to 24 volts. Gate drivers typically operate at input voltages from 3.3 to 1.8 volts and output voltages ranging from 10 to 50 volts. Lower input voltage saves power and lowers electromagnetic interference, or EMI. Output voltage may be higher or lower depending on the characteristics of the liquid crystal (or diode), in the case of source drivers, or TFT device, in the case of gate drivers.

- *Gamma Curve.* The relationship between the light passing through a pixel and the voltage applied to it by the source driver is nonlinear and is referred to as the "gamma curve" of the source driver. Different panel design and manufacturing processes require source drivers with different gamma curves. Display drivers need to adjust the gamma curve to fit the pixel design. Due to the materials and processes used in manufacturing, panels may contain certain imperfections which can be corrected by the gamma curve of the source driver, a process which is generally known as "gamma correction." For certain types of liquid crystal, the gamma curves for RGB cells are significantly different and thus need to be independently corrected. Some advanced display drivers feature three independent gamma curves for RGB cells.

- *Driver Interface.* Driver interface refers to the connection between the timing controller and display drivers. Display drivers increasingly require higher bandwidth interface technology to address the larger data volume necessary for video images. Panels used for higher data transmission applications, such as televisions, require more advanced interface technology. The principal types of interface technologies are transistor-to-transistor logic, or TTL, reduced swing differential signaling, or RSDS, mini-low voltage differential signaling, or mini-LVDS, and point-to-point high-speed interface. Among these, RSDS, mini-LVDS and point-to-point interface were developed as low power, low noise and low amplitude methods for high-speed data transmission using fewer copper wires and resulting in lower EMI. Moreover, there are some panel manufacturers developing their proprietary point-to-point interfaces, such as embedded panel interface, or EPI, USI-T, iSP, CEDS, CHPI, CSPI and CMPI.

- *Package Type.* The assembly of display drivers typically uses TAB and COG package types. COF and TCP are two types of TAB packages, of which COF packages have become predominantly used in recent years. Customers typically determine the package type required according to their specific mechanical and electrical considerations. In general, display drivers for small-sized panels mainly use COG package types, whereas display drivers for large-sized panels primarily use TAB package types and, to a lesser extent, COG package types.

Large-Sized Applications

We provide source drivers, gate drivers, PMIC, P-gamma OP level shifter and timing controllers (TCON) for large-sized panels principally used in desktop monitors, notebook computers and televisions. Display drivers used in large-sized applications feature different key characteristics, depending on the end-use application. For example, the industry trend for large-sized applications is generally toward super high channel, low power consumption, low cost, thin and light form factor, touch function, higher data transmission rate and higher driving capabilities. Higher speed interface technologies are also key for 4Kx2K and 8Kx4K high-resolution TVs. Greater color depth, thermal solution, high data rate and high driving, are particularly important for advanced televisions and certain monitors.

Our large display driver IC business achieved several milestones from 2019. For example, we successfully added 12-inch fabs into the pool of our foundry capacity for our large display driver ICs to ease the capacity shortage of 8" foundry where the vast majority of large panel driver ICs are fabricated. On high-end TV, Himax outpaced peers to lead the mass production of customized high-speed point-to-point (P2P) transmission using embedded panel intra interface such as iSP, CHPI, USI-T, CMPI, CEDS and CSPI for 4K TVs and developed a 2-in-1 COF driver to meet the requirements of high channel count and heat dissipation for 8K TV. On gaming monitor, we have high frame rate and high driving driver to meet various resolutions needs and frame rates such as UHD 165Hz, QHD 240Hz, FHD 360Hz, etc. We also successfully developed low power consumption driver applied in low power monitor to satisfied Energy Star 8.0 and even Energy Star 9.0. Lastly, our P2P driver and TCON ICs with 13.3" FHD can meet Intel 1W project requirement.

We also made tremendous progress in TCON product lines in 2020. UHD TV penetration rate is larger than 50% since 2019, and we developed competitive UHD TV TCON to seize this market. Himax UHD TV TCON has mass production at all major China LCD makers and the shipment has double growth in 2020. We also provide gaming TCON for the new QHD 240Hz and UHD 144Hz gaming monitor and notebook. For high-end gaming requirement, we have developed eDP 8.1G TCON to increase bandwidth. We also have embedded local dimming in TCON ICs for TFT-LCD automotive applications to support higher contrast instrument panels needed for drivers to read the content of the meter quickly. Additionally, several key panel makers also seek Himax cooperation to develop OLED for automotive applications. Currently we are developing customized OLED ASIC for these key panel makers which is expected to go mass production in 2021.

The table below sets forth the features of our products for large-sized applications:

Product	Features
TFT-LCD Source Drivers	• 384 to 1920 output channels • 6-bit (262K colors), 8-bit (16 million colors) or 10-bit (1 billion colors) • one gamma-type driver • two gamma-type drivers to improve display quality • three gamma-type drivers (RGB independent gamma curve to enhance color image) • output driving voltage ranging from 7 up to 20V • input logic voltage ranging from standard 3.3V to low power 1.8V and support half VDDA • low power consumption and low EMI • support COF and COG package types • support TTL, RSDS, mini-LVDS (up to 400MHz), cascade modulated driver interface, or CMDI, point-to-point high speed interface (up to 4Gbps for 8K 120Hz) and customized interface technologies • support dual gate and triple gate panel designs
TFT-LCD Gate Drivers	• 192 to 1600 output channels • output driving voltage ranging from 10 up to 50v • input logic voltage ranging from standard 3.3V to low power 1.8V • low power consumption • support COF and COG package types • support dual gate and triple gate panel designs
Timing Controllers	• product portfolio supports a wide range of resolutions, from VGA (640 x 480 pixels) to full HD, UHD and 8K4K (1,920 x 1,080 pixels, 1,920 x 1,200 pixels, 3840 x 2160 and 7680 x 4320) • support mini-LVDS, point-to-point high speed interface and customized output interface technologies • embedded overdrive function to improve response time • support CABC and local dimming to save power and color engine to enhance color and sharpness • support TTL, LVDS, eDP, G-sync, MIPI and V-by-one input interface technologies • support dual-gate, triple-gate, GOA (gate on array) and RGBW panel designs • support amorphous silicon, IGZO and LTPS panel • ASIC AMOLED timing controller
Programmable Gamma OP	• 8 to 16 channel gamma buffer outputs • channel VCOM buffer output • Internal non-volatile memory • 2 gamma bank selection, setting time < 3uS • Analog power supply voltage: 9.0V to 20.0V • Digital power supply voltage: 2.7V to 3.6V • Peak current on gamma channels: 200mA • Peak current on VCOM channel: 400mA • Programmable VCOM limit • 12C speed up to 1MHz

Electronic Paper Display Applications

We offer display driver for the Electronic Paper Display (EPD) applications, such as reading & writing device, Electronic Shelf Label (ESL) and Signage Display. The Electronic Paper Display (EPD) drivers can support various display resolutions to meet the customized needs of applications.

The following table summarizes the features of our Electronic Paper Display (EPD) solutions:

Product	Features
Electronic Paper Display (EPD) Source Drivers	• Features 320 to 1920 output channels • output driving voltage ranging from 15 up to 50v • input logic voltage ranging from standard 3.3V to low power 1.8V • low power consumption and low EMI • support TTL, mini-LVDS cascade modulated driver interface, or point-to-point high-speed interface and customized interface technologies • support COF and COG package types
Electronic Paper Display (EPD) Gate Drivers	• 100 to 840 output channels • output driving voltage ranging from 10 up to 50v • input logic voltage ranging from standard 3.3V to low power 1.8V low power consumption • support COF and COG package types
Electronic Paper Display (EPD) Integrated Drivers	• Highly integrated chip embedded with source driver, timing controller and power circuit • source driver output driving voltage ranging up to 30V • Support COG package types

Smartphone and Tablet Applications

We offer display drivers for small and medium-sized displays in smartphone and tablet applications that combine source driver, gate driver, timing controller, DC to DC circuits, and optional frame buffer into a single chip or cascades chips in various display technologies, such as TFT-LCD and AMOLED.

Smartphones and tablet have gained greater popularity among small and medium-sized display drivers and enjoyed higher growth in recent years. This has also contributed to increased demand for larger size and higher resolution smartphone displays. In the past few years, we offered innovative handset display driver products by providing FWVGA (480 x 864), qHD (540 x 960), WSVGA (1024 x 600), HD720 (720 x 1280)/ WXGA (800 x 1280), FHD (1080 x 1920) / WUXGA (1200 x 1920) and up to QHD (1440 x 2560) / WQXGA (1600x2560) display driver ICs. We continue to update new products for this mainstream smartphone and tablet with lower cost and new features, such as color enhancement and sun-light readability enhancement functions. In 2015, we developed new technologies and led the display industry with next generation display driver ICs, such as a-si FHD (1080 x 1920), AMOLED ASICs for HD and FHD and LTPS QHD (1440 x 2560) with sub-pixel rendering technologies. In 2016, Himax developed a series of single chip touch display driver integrated circuit (TDDI) for advanced in-cell touch display panel. Himax started the shipments of in-cell TDDI for some smartphones in 2016 and extended TDDI solution to tablet application in 2017. Smartphone display had a dramatic change in terms of aspect ratio, instead of resolution, in 2017. Though display resolution of entry smartphones kept moving up from WVGA or qHD to HD, high-end smartphone display may be stuck at FHD or QHD since it's pixel per inch is good enough for normal consumers' daily use. OEMs start to seek for differentiation with 18:9 or even wider aspect ratio, full front displays. Himax has designed conventional 16:9 HD and FHD DDICs capable of supporting 18:9 or wider HD+/FHD+ displays and achieved a number of design-wins with leading Chinese smartphone brands. As in-cell TDDI, featuring thinner display, slimmer border, and better visual quality, has been getting popular, we re-invented a new generation of TDDIs supporting COG and COF for 18:9 or wider aspect ratio with interlaced output pins, which makes the bottom border of the in-cell touch display even smaller to gain higher display to body ratio. Our FHD+ and HD+ TDDI successfully gained design-wins with a few leading Korean and Chinese smartphone brands and panel makers.

We started small volume shipment in the first half of 2018 with accelerating volume started in the second half of 2018 into 2019 and beyond. In 2020, Himax extended our product offerings with high frame rate TDDI solution and has started shipping to top-tier smartphone OEMs. We expect the demand for high frame rate TDDI solution to explode as more brands adopt this feature in display.

A major development we are seeing in the marketplace is increased utilization of the OLED display for smartphone, smart watch, automotive and tablet. This is due to investments on expanded AMOLED capacity as well as increased demand for under-display fingerprint technology that is only available in the AMOLED display for the time being. We are collaborating closely with leading panel makers across China for AMOLED product development. We believe AMOLED driver ICs will soon become one of the major growth engines for our small panel driver IC business.

On the other hand, the application of in-cell TDDI start to extend from mainstream smartphone to larger displays in 2018. Himax started to offer various new TDDI solutions for tablet, smart speakers, and even some infotainment displays in automobiles. The first tablet TDDI with WXGA resolution went mass production in 2018 and also extended to leading smart speaker applications as well. In 2019, Himax announced a series of new driver and TDDIs for tablet application. The COF packaged driver IC solution enables one leading tablet OEM successfully launching WQXGA resolution tablet with super slim bezel. We also added another new features to our TDDI that can support up to WUXGA and WQXGA resolution has gained several design-win from tablet OEMs across Korea and China in 2019. We also launched the first TDDI supporting active stylus function in tablets which commenced mass production and contribute to our tablet application business in 2020.

Tablet in-cell TDDI offers the benefits of lower cost and a simplified supply chain that represents an easier manufacturing process for panel makers. For consumers, it offers a lighter weight, slimmer and more stylish design as well as improved touch accuracy with added option for active stylus. Our active stylus in-cell technology is adopted in many launched tablet products. At present, we are the dominant supplier for literally all leading Android names. In 2020, tablet demand is picking up significantly fueled mainly by remote work and online learning demand due to the pandemic. TDDI for tablet application represents a tremendous upside for Himax through 2020.

The following table summarizes the features of our products for smartphone and tablet applications:

Product	Features
Smartphone Display Drivers	• highly integrated single chip embedded with the source driver, gate driver, power circuit, timing controller and memory • suitable for a wide range of resolutions from QQVGA (128 x 160 pixels) to QHD (1440 x 2560 pixels) • support up to 16 million colors • support RGB separated gamma adjustment • support CABC • support color enhancement features including saturation, brightness, and sharpness enhancement • support MIPI interface for smartphone application and LVDS for CE applications • support RAM-less or 1/3 RAM compression technologies • low power consumption and low EMI • fewer external components to reduce costs • slimmer die for compact module to fit smaller smartphone designs • application specific integrated circuits, or ASIC, can be designed to meet customized requirements for LCD or AMOLED • touch display driver integrated circuit (TDDI) for advanced in-cell touch display • extending from 16:9 to 18:9 or wider aspect ratio • COG and COF solutions for super slim bottom border • Conventional 60Hz and up to 144Hz new high frame rate solution • AMOLED driver IC with sub-pixel rendering, Demura-IPs for FHD+
Tablet Display Drivers	• highly integrated single chip embedded with the source driver, power circuit, and timing controller • suitable for a wide range of resolutions from WSVGA (600 x 1024), WXGA (800 x 1280), WUXGA (1200x1920) to WQXGA (1600 x 2560)

- support up to 16 million colors
- support RGB separated gamma adjustment
- support CABC
- support color enhancement features
- support MIPI interface
- touch display driver integrated circuit (TDDI) for advanced in-cell touch display
- supporting TDDI with active stylus
- COG and COF solutions for super slim bezel

Automotive Display Applications

We offer source drivers, gate drivers, timing controllers and integrated drivers for the fast ramping automotive display applications, such as instrument cluster display (ICD), center information display (CID), head-up display (HUD), rear seat entertainment display (RSE) and rearview mirror display.

The automotive display drivers can support various display resolutions to meet the customized needs of automotive display, including GIP panel and non-GIP panel, a-Si TFT panel and LTPS panel. Meanwhile, the automotive display drivers can support higher output driving voltage for higher contrast ratio and faster liquid crystal response in automotive display applications. The automotive Timing Controller can support Local Dimming function for the goal of higher contrast ratio and thermal reduction in automotive display applications. We launched the world's first TDDI design for automotive displays technology which started shipping in 2019 with meaningful volume anticipated starting 2021. As electronic vehicle grows in popularity and autonomous driving developments, our technological prowess continues to separate us from peers for the next generation display for automotive.

The following table summarizes the features of our products used in automotive display applications:

Product	Features
TFT-LCD Source Drivers	• 642 to 1,920 output channels • 6-bit (262K colors), 8-bit (16.7 million colors) • support RSDS, mini-LVDS, Point-to-Point interfaces • output driving voltage ranging up to 15V • support COG and COF package type
TFT-LCD Gate Drivers	• 100 to 1,600 output channels • output driving voltage ranging up to 40V • support COG and COF package type
TFT-LCD Integrated Drivers	• highly integrated chip embedded with source driver, timing controller and power circuit • support RGB, LVDS input interfaces • support Single Gate, Dual Gate, Triple Gate panel structure • support GIP panel (a-TFT GIP or LTPS GIP) and non-GIP panel • support resolution up to 2880 RGBx1080 with cascaded chips • source driver output driving voltage ranging up to ±6.6V or 16V • support Fail Detect Function, including CRC Function • support Local Dimming Function • support Teletext OSD function • support COG and COF package type
Timing Controllers	• support LVDS, eDP 1.2 input interface • support RSDS, mini-LVDS, Point-to-Point output interfaces • support Single Gate, Dual Gate, Triple Gate panel structure • support GIP panel (a-TFT GIP or LTPS GIP) and non-GIP panel • support various resolutions up to 4K2K(ICD) or 7K1K(CID) • support Local Dimming Function • support Fail Detect Function, including CRC Function

Product	Features
TFT-LCD TDDI Drivers	• highly integrated chip embedded with source driver, timing controller, touch controller and power circuit • support LVDS input interfaces • support Single Gate, Dual Gate, Triple Gate a-TFT panel structure • support 2MUX, 3MUX, 6MUX LTPS panel structure • support GIP panel (a-TFT GIP or LTPS GIP) and non-GIP panel • support resolution up to 5760RBx720 with cascaded chips • source driver output driving voltage ranging up to ±6.6V • support Fail Detect Function, including CRC Function • support Color Engine function • support COG package type

Touch Controller ICs

We offer touch controller solutions for capacitive touch panels. Our touch controller solutions are suitable for up to 13" touch panel screens electronic devices, such as smartphones, mobile internet devices and tablet. In the third quarter of 2011, we commenced shipping capacitive touch controller ICs to a worldwide brand smartphone customer. In 2013, we expanded customers base to more well-known smartphone and tablet brand customers.

Our capacitive touch controller possesses certain innovations and merits. It could support sensing and tracking of up to ten points. The embedded micro-controller single chip solution reduced the cost for flexible product. Its auto calibration mechanism can meet strict validation requirements of leading smart phone brands. With sophisticated designed hardware and firmware supporting hybrid sensing combining merits of self-capacitance and mutual capacitance, Himax's touch controller could support out-cell and on-cell with various sensor patterns and stack-ups.

In 2015, we shipped touch controller product as we successfully gain design-wins from several smartphone and tablet end brands. We continue to gain market share in out-cell and on-cell touch panel controller markets. Meanwhile, our technological capabilities are highly recognized by end brands and caught the attention of leading in-cell panel makers that they have some development engagement using our touch-display driver integrated circuit (TDDI). We have developed a series of TDDI products in 2015 and 2016 for these tier one in-cell touch panel makers and started mass production in smartphone brands. We also started the mass production of our TDDI in tablet and automotive displays in 2019. In-cell TDDI, featuring thinner display, slimmer border, and better visual quality, has become the mainstream technology. We will expand our TDDI solutions to replace discrete DDIC and touch controller IC.

The following table summarizes the features of our touch controller products:

Product	Features
Capacitive Touch Controller	• complete single chip touch controller solutions for handheld devices, supporting smartphones and tablet • real multi-point capability support of up to 10 points • mass production with GG, GFF and one glass solution ("OGS"), and On-cell touch • support advanced functions such as passive stylus, glove, etc. • minimum components: simple, neat, and flexible mechanical design

ASIC service

From 2012, we successfully completed several ASIC service projects for Japan top TV, Project and HMD makers with advanced and high-performance customized video processing chips. All of these chips are implemented with our proprietary video process platform that includes our video process display IP and high-speed transmission IPs. The process nodes adopted for these ASIC are usually 40nm, 55nm and even 28nm processes. From 2016, we also developed the depth sensing technology that aims 3D sensing and AR/VR markets. On the other hand, the low power Convolution Neural Network (CNN) accelerator platform is also under development for the emerging ultralow power Computer Vision market.

The following table summarizes the features of our ASIC service:

Product	Features
ASIC Service	• Well-established ASIC development platform, based on our unique video processor and image processing technologies. • offer a wide variety of video interface IPs, like LVDS, HDMI, DVI, V-by-one, Display port, MIPI, MHL, etc. • built-in 8/32- bit microprocessor built-in video processing algorithm like super-high resolution, sun-light readable, MEMC, FRC, etc • built-in 3D feature technologies like 2D-to-3D, Glasses-free 3D, 3D multi-view, 3D visual protection, etc. • support 4K x 2K/ 5K x 2K/ 8K x 4K display • Depth sensing algorithm and hardware accelerator for 3D sensing and AR/VR applications • Low power Convolution Neural Network (CNN) algorithm and hardware accelerator for Computer Vision market

LCOS and MEMS Products

Himax Display, our subsidiary, has contributed to our microdisplay products lines: Color-filter LCOS, Color-sequential LCOS, Front-Lit LCOS and MEMS.

The latest development of Front-Lit LCOS enables an ultra-compact and extremely power-efficient optical engine by consolidating and integrating LED illumination system and the polarization beam splitter (PBS) into the micro display module itself. Front-Lit LCOS enables a much-simplified optical engine design and assembly process that could successfully lowered customers' manufacturing time and costs.

Himax Display is one of the market leaders of the LCOS industry since 2012 with the whole product line patented. We believe Himax Display is the only non-captive LCOS company that owned a mass production ready liquid crystal assembly line. We have produced and shipped over 2.0 million units from this ISO certified line. Our customers use our products in various applications such as pico-projector, communication, toy projector, AR glasses, HUD for automotive and HUD for motorcycle.

The merits of our technology features in resolution, power consumption, size, cost, optical engine design, and image quality. Many of our industry-leading customers have demonstrated their state-of-the-art products, including holographic HUD (AR HUD), AR glasses and LiDAR system, with Himax LCOS technology inside at the 2020 CES with positive market feedbacks. Our technology leadership and proven manufacturing expertise have made us a preferred partner for customers in these emerging markets and their ongoing engineering projects in AR goggles and AR HUD for automotive applications.

We provide a rich products family for customers to choose for different applications, as each product has its own most important parameters to select and Himax Display provides choices to customers. The following table shows certain details of our products:

Product	Size and Resolution
Color-Filter LCOS Microdisplays	• 0.28" (320x240 pixels) QVGA • 0.38" (640x360 pixels) nHD • 0.44" (640x480 pixels) VGA • 0.59" (800x600 pixels) SVGA • Customized design
Color-Sequential LCOS Microdisplays	• 0.22" (640 x 360 pixels) nHD • 0.28" (852 x 480 pixels) WVGA • 0.38" (640 x 480 pixels) VGA • 0.37" (800 x 600 pixels) SVGA • 0.37" (1366 x 768 pixels) WXGA • 0.45" (1024 x 768 pixels) XGA • Customized design

Product	Size and Resolution
Front-Lit Color Filter LCOS	• 0.22” (640 x 360 pixels) nHD • Customized design
MEMS	• 0.55” (1280 x 800 pixels) WXGA

Power ICs

Himax provides TFT-LCD television, monitor and notebooks power management solutions. The main products are Power Managements ICs (PMIC), Programmable Gamma OP ICs (PGOP) and Level Shifter ICs (LS). In recent years, PMIC/PGOP/LS 3-in-1 PMIC has gradually become the mainstream solution.

Power Management ICs

A power management IC integrates several power components to fulfill system power requirements. It may include step-up or step-down pulse width modulation, or PWM, DC-to-DC converters, low-dropout regulators, or LDO regulators, voltage detectors, operational amplifiers, p-gamma OP, level shifters, and/or other components. For panel module applications, a power management IC provides a reliable and precise voltage for source drivers, gate drivers, timing controllers, and panel cells. Moreover, its built-in over-temperature and over-current protections help prevent components from being damaged under certain abnormal conditions. As integrating an increasing number of components into a power management IC is likely to be a continuing trend, we believe power management ICs will continue to be critical components of a TFT-LCD panel module. The following table summarizes certain features of our power management IC products:

Product	Features
Integrated Multi-Channel Power Solutions for Notebooks	• built-in power MOSFET • step-up PWM converter • charge pump regulator • LDO regulator • voltage detector • gate pulse modulator • Vcom operational amplifier • 2ch programmable gamma voltage with operational amplifier • I2C programmable • low frame rate control for power saving solution
Integrated Multi-Channel Power Solutions for Monitors	• PMIC/PGOP/Level Shifter 3-in-1 • built-in power MOSFET • step-up PWM converter • HV LDO regulator • voltage detector • gate pulse modulator • programmable Vcom voltage / Vcom operational amplifier • programmable gamma voltage with operational amplifier • level shifter
Integrated Multi-Channel Power Solutions for TVs	• PMIC/PGOP/Level Shifter 3-in-1 • built-in power MOSFET • step-up PWM converter • step-down PWM converter • charge pump regulator • HV LDO regulator • voltage detector • gate pulse modulator

Product	Features
	• Vcom operational amplifier • I2C programmable • level shifter • programmable gamma voltage with operational amplifier

Programmable Gamma OP ICs

It is a Programmable Gamma, DVR and VCOM IC. Each controlled by a 10-bit digital analog converter (DAC). The user can easily select one of the two gamma curves to compensate for the display. The PGOP also includes a channel DVR, VCOM buffer and built-in 7-bit DAC. Support 128-step to adjust the VCOM output voltage by I2C control setting automatically.

Product	Features
14 channel PGOP for dual gate GOA TFT-LCD	• Programmable gamma buffer DVR and VCOM buffer • 14 channel analog output gamma reference voltage • 10-bit Gamma DAC resolution • 2 Gamma bank register • 2 Gamma bank NVM • Built in output channel resister • I2C interface

Level shifter

TFT-LCD panel manufacturers have developed panel designs to reduce the usage of display drivers, like gateless designs, which integrate the gate driver function onto the glass but needed level shifter. All level shifter channels feature the same input circuitry and are compatible with the standard logic-level signals generated by timing controllers in typical applications. The level shifter converts the timing-controller (TCON) logic-level signals to the high-level signals needed by the GOA (gate on array) display. The output circuitry has been designed to achieve high rise and fall times when driving the capacitive loads typically encountered in TFT-LCD display applications.

Product	Features
16- channel level shifter for dual gate GOA TFT-LCD	• support two kinds of T-con input signals • 6/8/10 clock channel output • 2 channel STV • 2 channel LC • 2 discharge channels • support charge sharing function • reset function • OTP/OCP (detect level, time and count) with I2C adjustment • Support 2 input and 6/8/10 output

LED driver

A light-emitting diode (LED) is a semiconductor light source that is widely used in lighting, display and TFT LCD backlight nowadays. The advantages of LEDs as light sources are the small size, fast switching, low power consumption and long lifetime etc.

LED driver IC is designed to dim the LEDs with critical features such as high current accuracy, high current matching, short LED protection, open LED protection, over voltage protection, ghosting effect reduction and current sink leakage protection etc.

Product	Features
Customer ASIC	• By Customer Specification

CMOS Image Sensor Products

The CMOS image sensor products are developed by our subsidiary, Himax Imaging. The products were designed firstly for camera-equipped mobile devices, such as mobile phones, tablets and notebook computers, with a focus on low light image and video quality. Although it seems relatively challenging for us to gain significant market share in conventional RGB camera, we do think there are various interesting and different applications in imaging. Based on the technologies and IP we developed, on top of legacy products for laptop and multimedia we have been supplying, our product lines have been expanded to cover three domains: ultralow power computer vision- Always-On Sensor ("AoS"), Near Infrared ("NIR") sensor, and big pixel BSI sensors in automotive and surveillance. In 2019, we further prioritized our focus on ultralow power computer vision- Always-On Sensor ("AoS") as the demand for battery-powered smart device with AI intelligent sensing is rapidly growing. Together with the technologies we already developed, such as Near Infrared ("NIR") sensor, we can provide our customers the best integrated solutions for several specific domains.

In addition to advancing our AoS sensor to drive the power as low as possible, we also devote ourselves to developing sensors that have industry leading small pixel (1.12um) with higher near infrared Quantum Efficiency ("QE") to support the new generation cameras. Their superior performance hugely helps to reduce the system's power consumption and therefore enhances the system performance. With the high QE in NIR band, we open the doors to building more sensor and camera systems for machine vision. For example, our HM11B1 is a critical part of Himax's WiseEye solution, an AI-based ultralow power smart sensing total solution and has penetrated into the laptop ecosystem for the most stylish super slim bezel design. Given its slim (narrower than 2mm) dimension to support ultra-thin bezel, we combine original RGB video conference sensor, IR sensor originally for Windows Hello support, and newly added intelligent AoS sensor into a single silicon. This 3-in-1 sensor not only enables new features, but also hugely saves laptop makers' effort in mechanical design and overall cost.

We are committed to be a key player in the CMOS image sensor business with continuous investment in experienced human resources, an efficient supply chain as well as strategic technology developments and partnerships to further increase the performance and improve features of small and specially designed pixel sensors.

The following table sets forth the features of our CMOS image sensor products:

Product	Features
5MP UltraSense 2 NIR Sensor	• 1/2.6" format color type with high sensitivity BSI pixel • 5MP resolution at 45 frames per second, support QHD video at 60 frames per second • Compact die size design to support small modules • 4x NIR sensitivity at 940nm • 4-lane MIPI CSI2 outputs RAW8/10
2.0MP ClearView Color Image Sensor	• 1/5" format color type • UXGA YUV output at 30 frames per second, 720p HD resolution at 60 frames per second • 1-lane MIPI CSI2 outputs RAW8/10
FHD 1/6" 1080p UltraSense Color Image Sensor	• 1/6" format with high sensitivity BSI pixel • 1080p FHD resolution at 60 frames per second • Low power consumption • Alternating frame support for HDR • 2-lane MIPI CSI2 outputs • Frame-Sync control for multiple camera system
FHD 1/3" 1080p UltraSense Color Image Sensor	• 1/3" format with high sensitivity BSI pixel • 1080p HD resolution at 60 frames per second • Low power consumption • Support for Staggered HDR

Product	Features
	• Provide high NIR sensitivity option • 2-lane MIPI CSI2 and 12bit parallel DVP outputs • Frame-Sync control for multiple camera system
FHD 1/4” 1080p UltraSense Color Image Sensor	• 1/4” format with high sensitivity BSI pixel • 1080p FHD resolution at 30 frames per second • Low power consumption • Provide high NIR sensitivity and 4x4 RGB-IR option • 2-lane MIPI CSI2 and 10bit parallel DVP outputs • Frame-Sync control for multiple camera system
HD 720p UltraSense 2 Color Image Sensor	• 1/9” format with high sensitivity BSI pixel • 720p HD resolution at 30 frames per second • Low power consumption • Support LED-sync for Microsoft Windows Hello • 1-lane MIPI CSI2 outputs RAW8/10
HD 720p Ultra Low Power Color Image Sensor	• 1/11” format with high sensitivity BSI pixel • 720p HD resolution at 60 frames per second • Ultra slim design to meet 2.2mm narrow bezel notebook computer • Provide Ultra Low Power mode >1mW for qqHD 3fps for human detection application • Provide RGB-IR version for Windows Hello • Support Motion Detection to save system power • SPI and 1-lane MIPI CSI2 dual outputs for both detection and video
1.3MP ClearSense EDR Color Image Sensor embedded with image processor for Surveillance	• 1/4” format with ultra-high sensitivity • ClearSense achieves higher dynamic range in color up to 84dB with on-chip tone mapping • 800p and 720p resolution at 30 frames per second • Flexi engine automatically controls dynamic range, exposure, gain, and white balance to balance color fidelity and contrast • Color processing pipeline including lens shading correction, defect correction, edge enhancement, color interpolation and correction, gamma control, and saturation/hue adjustment. • Anti-blooming and dark sun cancellation • Built-in low dropout regulator and power on reset • 10-bit parallel video data port supports RAW, YUV422, and RGB565/555/444
1.2MP UltraSense 2 Color Image Sensor embedded with image processor for Automotive	• 1/4” format with ultra-high sensitivity • Ultrasense 2 BSI pixel offers higher sensitivity for low light condition • Operation up to 105ºC • 960p and 720p resolution at 30 frames per second • Color processing pipeline including lens shading correction, defect correction, edge enhancement, color interpolation and correction, gamma control, and saturation/hue adjustment • Dynamic Range Optimizer offers best dynamic range of video • Anti-blooming and dark sun cancellation • Built-in low dropout regulator and power on reset • 10-bit parallel video data port supports RAW, YUV422, and RGB565/555/444
NTSC/PAL WVGA Color Image System on embedded with image processor for Automotive and	• High sensitivity, low noise VGA sensor operating up to 60FPS • Visible and near infrared sensitivity • Operation up to 105ºC

Product	Features
Surveillance	• Ultra-compact automotive package • Advanced defect correction with built-in temperature sensor • Embedded ISP with programmable automatic exposure and white balance • Optical alignment pixel with crop and zoom to native resolution • 4Kb OTP for sensor initialization, module storage, and overlay setting • Multi-color static overlay engine
QVGA Ultralow Power CMOS Color Image System for Machine Vision and Detection	• High sensitivity, low noise 1/11" 320x320 image area • Under 2.5mW at QVGA 30fps and 1mW at QQVGA 15fps • Embedded auto-exposure and motion detection • NeoPac and CSP package • Parallel 8bits, 4bits and 1bit data output
VGA Ultralow Power CMOS Color Image System for Machine Vision and Detection	• High sensitivity, low noise 1/6" 640x480 image area • Operates approximately 7mA VGA 60FPS to 140μA in QVGA 2FPS mode • Provide high accurate motion detection • Pre-metered exposure provides well exposed first frame and after extended sleep (blanking) period • Automatic wake and sleep operation with programmable event interrupt to host processor • Parallel 8bits and 1-Lane MIPI CSI2 interface

Wafer Level Optics Products

Wafer level optics are optical products manufactured using semiconductor process on wafers. This innovative approach enables wafer level optics to manufacture micro/nano optics structure and high temperature resistance, making the compatible Surface-Mount Technology or SMT reflow process possible. We offer entire optical solutions for customers who need compact and easy-to-handle optical products on their electronic devices.

Combining traditional optical lens design, precise mold control and semiconductor manufacturing expertise, our WLO lens with integrated waveguide, refractive optics and diffractive optical element (DOE) is one of the best solution for next generation computational imaging module for 2D/3D illumination and 3D dot projector, which can be applied to 3D face recognition, 3D sensing, 3D reconstruction, and gesture control. With the innovative process and specific structure, our wafer level optics products provide small form factor and compact module size to be easily integrated into consumer products such as smartphones, AR/VR devices, and other mobile devices.

Our WLO technology is also adapted to form microstructure such as lens array, DOE and lenticular lens for advanced applications in digital and computational imaging fields. These technologies stand in a unique position to integral optical design, semiconductor manufacturing process, and compact packaging service, which are rarely covered by one single company. Deeply rooted in core wafer level optics technologies, we provide highly customized optical solutions and high-volume manufacturing to many tier-one customers such as structured lighted and ToF 3D sensing on mobile device, AR/VR gadgets, biomedical devices and other applications.

Our WLO business hit inflection in the middle of 2017 when we began mass shipment to an anchor customer. The overall 2018 shipment increased considerably year-over-year because of the customer's large-scale adoption in more models. In 2019, we continued the strong shipment momentum from 2018 to fulfill anchor customer's higher demand with a significant year-over-year increase. In 2020, we continued our shipment to anchor customer for their legacy product. We continue to make progress with ongoing R&D projects with world-leading high tech giants for next generation products in various AR/VR, ToF and LiDAR applications centered around our exceptional design know-how and mass production expertise in WLO technology.

The following table sets forth the features of our wafer level optics products:

Product	Features
Refractive Optical Lens	• for Micro Lens Array (MLA) illumination diffuser, lighting control, flux illumination lens, collimation lens, and compact size camera lens • provide multi-layer solution including optical AR coating, IR-cutting filter coating, aspheric surface • double-side manufacture process • already in mass production
Diffractive Optical Element (DOE)	• computational imaging, flux illumination, dot projector for 3D sensing, 3D reconstruction, gesture and illumination control • using WLO process to integral multi-layers DOE and refractive lens • provide customized solution for specific application • the smallest form factor and reflowable component • eye safety detect circuit embedded
Diffuser element for flood illumination and TOF	• using WLO process to integral multi-layers DOE technology • the smallest form factor and reflowable component • eye safety detect circuit embedded
Near Infrared (NIR) Projector Module	• dot projector module solution for computer vision, 3D sensing, 3D reconstruction, gesture and illumination control • integral NIR Laser (830/850/940nm), optical system (refractive+ diffractive lens) and high precise active alignment assembly solution to provide the smallest form factor • module design for smartphone and other mobile devices • provide customized module solution for different application • the smallest form factor and reflowable device • including active eye safety solution (Class-1)
Flood illumination Module	• provide customized solution for specific application integral NIR Laser (830/850/940nm), and high precise active alignment assembly solution • module design for smartphone and other mobile devices • the smallest form factor and reflowable device • including active eye safety solution (Class-1)

3D Sensing Business

We continue to participate in most of the smartphone OEMs' ongoing time-of-flight (ToF) 3D sensing projects. In 2018, our structured light-based 3D sensing total solution targeting Android smartphone's front-facing application was unsuccessful due to the high hardware cost of 3D sensing, the long development lead time required to integrate it into the smartphone and the lack of killer applications which is limited to phone unlock and online payment. Instead of 3D sensing, most of the Android phone makers have chosen the lower cost fingerprint technology which can achieve similar phone unlock and online payment functions with somewhat compromised user experience.

Being a leading provider of 3D sensing technology, Himax is also an active participant in smartphone OEMs' design projects for new devices involving ToF technology. We are seeing increasing ToF adoption by smartphone makers for world-facing cameras to enable advanced photography, distance/dimension measurement and 3D depth information generation for AR. Unlike structured light 3D sensing where we provide total solution or just projector module or optics depending on customers' needs, with ToF, we will only focus on transmitter module or optics component by leveraging our WLO related expertise. In the past few months, we have been actively working with industry leading VCSEL provider, sensor company, module manufactures and smartphone makers for a new and advanced ToF 3D solution development, targeting Android smartphones. Leveraging on our WLO technology, we have made great progress providing the partner with spot projector or optics component for their reference design which is ready under leading Android smartphone makers' evaluation.

As we reported at second quarter 2019 earnings call on August 7, we had adjusted our structured light-based 3D sensing technology development to focus on applications for non-smartphone segments which are typically less sensitive to cost and always require a total solution.

3D sensing can have a wide range of applications beyond smartphone. We have started to explore business opportunities in various industries by leveraging our structured light 3D sensing total solution. We expect small volume shipments for business access control and biomedical inspection devices in the first quarter 2021. With more design-ins and engagements currently under progress, we continue to receive numerous inquiries with new ideas of applications that never occurred to us. To strengthen our offers in 3D sensing total solution, we have been collaborating closely mainly with two types of partners: those with industry-leading expertise in facial recognition algorithm and those offering application processors with strong AI capability.

Other than 3D sensing total solution, we provide key component, our proprietary 3D decoder IC, to customers who wish to design their own structured light-based 3D sensing solution. It is now well-adopted by many China e-payment solution providers and entered into small volume production in 2020. Our 3D decoder can accelerate local image processing for face recognition and offer best-in-class security authentication. It was already certified by the leading Chinese electronic payment standard with requirements of accurate data decoding, timely operation and strict privacy.

Our critical 3D sensing Technologies include the followings.

Wafer Level Optics Products

WLO is one of the key technologies enabling 3D sensing, AR goggle devices, and many other applications. Levering on our exceptional design know-how and mass production experience in WLO technology, we are able to produce the world's most compact optics required for 3D sensing, meanwhile achieving superior performance and lower costs.

ASIC

One of the critical elements of our 3D sensing total solution is an ASIC for 3D depth map generation. We are able to develop the ASIC thanks to our unique in-house capability in developing video ASICs for customers. Equipped with the ASIC, our 3D sensing total solution can substantially reduce the power consumed while processing 3D sensing, enhance personal data security, accelerate the 3D depth map generation, and provide superior depth data output that matches with our optical component. We consider this unique capability as our competitive advantage. It has been and will continue to be one of our key drivers in the success of our 3D sensing total solution.

Active Alignment

With much experience in optical assembly for AR and VR devices, our factory has developed a system to do active alignment for tiny components. From the incoming quality check, assembly process, and testing, all steps are monitored and checked. The precision assembly capability gives us a very good foundation to do the optical assembly for DOE, WLO, and laser.

Laser Driver

Based on our expertise in projector, optics, and driver, we have designed a special Glass Broken Detection ("GBD") mechanism on our projector. With the support from laser driver, it can cease the laser to prevent users from being exposed to higher power laser energy.

The following table sets forth the features of our SLiM 3D sensing total solutions:

Product	Features
SLiM 3D sensing total solution	• Dot projector: More than 33,000 invisible dots, the highest in the industry, projected onto object to build the most sophisticated 3D depth map among all structured light solutions • Depth map accuracy: Error rate of < 0.5% within the entire operation range of 30cm-100cm • Face recognition: Enabled by the most sophisticated 3D depth data

	to build unique facial map that can be used for instant unlock and secure online payment • Indoor/outdoor sensitivity: Superior sensing capability even under total darkness or bright sunlight • Eye safety: Certified for IEC 60825 Class 1, the international laser product standard which governs laser product safety under all conditions of normal use with naked eyes • Glass broken detection: Patented glass broken detection mechanism in the dot projector whereby laser is shut down instantaneously in the event of broken glass in the projector • Power consumption: Less than 400mW for projector, sensor and depth decoding combined, making it the lowest power consuming 3D sensing device by far among all structured light solutions • Module size: the smallest structured light solution in the market, ideal for embedded and mobile device integration
HV-II 3D Decoder ASIC	• Himax 3D Depth Processor with high depth accuracy • Support up to HD resolution depth map for different applications • 2D & 3D auto-exposure control for projector and sensor • Frame rate conversion for different application/capability of SOC • Scaling engine for different application/capability of SOC • Ambient light detection and removal • Embedded Security Engine • Power Management Engine for power shutdown • MIPI CSI-2 / DPHY interfaceframework. Sensor is

Ultralow power smart sensing

The demand for always-on battery-powered smart devices with AI intelligent sensing is rapidly growing. By combining an ultralow-power image sensor with a custom computer vision ASIC and machine-learning algorithms, Himax WiseEye ultralow power smart sensing enriches connected edge devices with AI capacity. The edge AI system, which consumes only few mW power consumptions, is leading the industry for the next-generation, battery operated, clever computer vision applications. The WiseEye total solution is also being engaged in a variety of applications, such as notebook, TV, and air conditioner. Himax WiseEye notebook solution provides a 'laptop-ready' 3-in-1 RGB/IR/AI solution that features respecting privacy and enhancing security for notebook users. At the CES 2020, several leading notebook OEMs and ODMs demonstrated our WiseEye notebook solution in their next generation premium notebooks with positive feedback. We expect to start a solid production ramp-up for above mentioned applications by the end of 2021. With joint efforts with our subsidiary EMZA and other algorithm partners, further engagements are on the way for more applications such as doorbell, door lock, security, smart building, industrial and automotive, and various AIoT devices for industrial and commercial uses. We are thrilled about the business progress achieved.

The following table sets forth the features of our ultralow power smart sensing - WiseEye total solutions:

Product	Features
WiseEye® ultralow power AI based total solution	• Ideal for battery operated devices enables always on mode of operation supporting both continuous operation and periodic wakeup mode, enabling long battery life • Total solution supports use of a variety of Himax CMOS image sensors– HM01B0 qVGA, HM0360 VGA and HM11B1 RGB/IR/AI hybrid sensor. Uniquely designed for ULP Computer Vision applications with always on scanning as low as 100uW. • Ultralow power CV MCU: WiseEye 1 ASIC a unique ultralow power computer vision processing silicon that is targeting always on applications with a sub 1mW capabilities. Processing at the edge: motion detection, human detection and face detection. • Emza computer vision algorithms, a lean machine learning

framework. Sensor is trainable for desired use cases (human full body, human upper body, face). Works on ultralow compute resources platform (CPU clock, internal memory)
- Total solution support Zoning capabilities and ignores events in non-relevant space.

For the other business model, we provide key components, such as WE-I Plus AI processor or always-on CMOS image sensor (AoS). WE-I Plus AI processor adopted Google TensorFlow Lite for Microcontrollers framework from June 2020 and has successfully demonstrated our unrivaled computing capability with ultralow power. In December 2020, we partnered with SparkFun, an online retail store, to distribute Himax WE-I Plus Edge AI evaluation board and AoS sensor modules. Developers can now access our technologies easily from SparkFun and transform their AI-enabling concepts which call for ultralow power and computer vision AI into real products. Furthermore, we teamed up with Edge Impulse who provides a leading end-to-end AI developer platform offering intuitive user interface. On Edge Impulse's platform, with a single button press and within seconds, developers can now generate the latest neural network AI model and export it directly onto the WE-I Plus evaluation board. The high technical obstacles developers usually face can therefore be dramatically lowered. Meanwhile, we also are working with another leading cloud service AI providers to adopt their edge-to-cloud service ecosystem with a business focus more toward healthcare, financial services, government, retail and industrial manufacturing.

The following table sets forth the features of our WiseEye WE-I Plus ASIC product:

Product	Features
WiseEye® WE-I Plus ASIC	• Ultralow power consumption: 40 uW/MHz • Support image, voice trigger simultaneously to wake up system • Optimized multi-layer power states for always-on applications • Ready-for- use software package and Machine Learning Library, including device driver, SDK and embARC Machine Learning Inference Library to support Google TensorFlow Lite Micro framework • ARC-EM9D 32-bit DSP: Frequency up to 400MHz, • Memory: Up to 2MByte SRAM • High performance pixel processing accelerator and JPEG codec • Security Engine: Support secure boot, secure FW update, secure debug mode, Support AES 128bits, RSA 2048bits, Hash-256, TRNG, Secure key management • Peripheral: 1/4/8-bit camera interface, I2C/SPI master/slave, UART, PWM, GPIO with 5 wake-up pins, 12-bit ADC with 4 channels, up to 1Msps, RTC Timer

Core Technologies and Know-How

Driving System Technology. Through our collaboration with panel manufacturers, we have developed extensive knowledge of circuit design, TFT-LCD driving systems, high-voltage CMOS processes and display systems, all of which are important to the design of high-performance TFT-LCD display drivers. Our engineers have in-depth knowledge of the driving system technology, which is the architecture for the interaction between the source driver, gate driver, timing controller and power systems as well as other passive components. We believe that our understanding of the entire driving system has strengthened our design capabilities. Our engineers are highly skilled in designing power efficient and compact display drivers that enhance the performance of TFT-LCD. We are leveraging our know-how of display drivers and driving system technology to develop display drivers for panels utilizing other technologies such as OLED.

High-Voltage CMOS Circuit Design. Unlike most other semiconductors, TFT-LCD display drivers require a high output voltage of 3.3 to 50 volts. We have developed circuit design technologies using a high-voltage CMOS process that enables us to produce high-yield, reliable and compact drivers for high-volume applications. Moreover, our technologies enable us to keep the driving voltage at very high uniformity, which can be difficult to achieve when using standard CMOS process technology.

3D Technologies. Several technologies in Himax are integrated together to form our 3D solution. First, wafer level imprinted technology is used to design and manufacture DOE and WLO. Then, our in-house capability on semiconductor enable us to design IC particularly match our optical component. Our expertise in precision assembly in optics also help us to provide a more complete solution to our customers.

Smart Sensing Technologies. Composed by an AoS sensor, an edge ASIC processor and computer-vision AI algorithm, all operated in ultralow power mode. Our industrial first AoS CMOS image sensor features ultralow power and low latency back-illuminated solution for always on, intelligent visual sensing applications. With Himax exceptional low power know-how and ASIC implementation technologies, AI processor featured different power domain and mode management schemes, together with advanced image processing hardwired accelerators to construct different operating modes in balancing processor performance and power consumptions. The seamless and proprietary interface between our AoS sensor and AI processor ensure the efficient and fast-response sensor data transmission and wake-up mechanism operating in ultralow power mode. The computer-vision AI algorithm, which get benefit from high performance and low power AI processor and image data from sensor, can therefore enable AI features such as powerful human detection, occupancy detection and motion classification for various application needs.

High-Bandwidth Interfaces. In addition to high-voltage circuit design, TFT-LCD display drivers require high bandwidth transmission for video signals. We have applied several high-speed interfaces, including transistor-transistor logic ("TTL"), Reduced Swing Differential Signaling ("RSDS"), mini low-voltage differential signaling ("LVDS"), dual-edge TTL ("DETTL"), turbo Reduced Swing Differential Signaling ("RSDS"), Mobile Industry Processor Interface ("MIPI") and other customized interfaces in our display drivers. Moreover, we are developing additional driver interfaces for special applications with optimized speed, lower EMI and higher system stability.

Die Shrink and LowPower Technologies. Our engineers are highly skilled in employing their knowledge of driving technology and high-voltage CMOS circuit design to shrink the die size of our display drivers while leveraging their understanding of driving technology and panel characteristics to design display drivers with low power consumption. Die size is an important consideration for applications with size constraints. Smaller die size also reduces the cost of the chip. Lower power consumption is important for many portable devices such as notebook computers, smartphone, tablet and consumer electronics products.

Customers

Our customers for display drivers are primarily panel manufacturers and mobile device module manufacturers, who in turn design and market their products to manufacturers of end-use products such as notebook computers, desktop monitors, televisions, smartphone, tablet, automotive and consumer electronics products. We may sell our products through agents or distributors for certain products or in certain regions. As of December 31, 2020, we sold our products to more than 200 customers. Our ten largest customers together accounted for approximately 74.6%, 75.6% and 77.7% of our revenues in 2018, 2019 and 2020, respectively. In 2018, 2019 and 2020, our three largest customers accounted for 10% or more of our net revenue: customer A and its affiliates accounted for 28.1%, 29.5% and 32.6% of our revenues, respectively; customer B and its affiliates accounted for 12.6%, 8.9% and 6.6% of our revenues, respectively; and customer C accounted for 5.7%, 5.6% and 12.7%, respectively.

Certain of our customers provide us with a long-term (twelve-month) forecast plus three-month rolling non-binding forecasts and confirm orders about one month ahead of scheduled delivery. In general, purchase orders are not cancellable by either party, although from time to time we and our customers have agreed to amend the terms of such orders.

Sales and Marketing

We focus our sales and marketing strategy on establishing business and technology relationships principally with TFT-LCD panel manufacturers, panel manufacturers using LTPS or OLED, or Oxide technologies, mobile display module and mobile device manufacturers for smartphone, tablet and automotive, and camera module houses in order to work closely with them on future semiconductor solutions that align with their product road maps. Our engineers collaborate with our customers' engineers to create products that comply with their specifications and provide a high level of performance at competitive prices and also create customized features for end brand customers. Our end market for large-sized panels is concentrated among a limited number of major panel manufacturers. We also market our products directly to monitor, notebook and mobile device manufacturers so that

our products can be qualified for their specifications and designed into their products. Furthermore, we extend our business development with system and ODM companies by using strategic ASIC business model to not only develop ASIC product based on customer specification but also jointly research and develop new technologies to meet customers' future product demand. Additionally, we form strategic partnership with tier-1 customers for our LCOS microdisplays, 3D sensing and smart sensing to penetrate into the emerging market. We believe we need close alliance with our customers to build up ecosystem for new applications.

We primarily sell our products through our direct sales teams located in Taiwan, China, South Korea and Japan. We also have dedicated sales teams for certain of our most important current or prospective customers. We have offices in Tainan, Hsinchu, Taipei, Taiwan; and Shenzen and Suzhou, China. We have other sales and technical support offices in Hefei, Beijing, Shanghai, Fuzhou, Foshan, Fuqing, Ningbo, Wuhan, Chongqing, Chengdu, Xi'an and Xiamen, China; Tokyo, Japan; Asan-si and Bundang-gu, South Korea; Givatayim, Israel; and Irvine and Campbell, California and Minneapolis, Minnesota, USA, all in close proximity to our customers. For certain products or regions, we may sell our products through agents or distributors.

Our sales and marketing team possesses a high level of technical expertise and industry knowledge used to support a lengthy and complex sales process. This includes a highly trained team of product managers and field applications engineers. Our team is equipped with extensive strategic marketing experience and a strong capability to identify market trends. We also provide technical support and assistance to potential and existing customers in system/SoC architecture, designing, testing and qualifying display modules, camera modules and end application systems that incorporate our products and ASICs. We believe that the depth and quality of this design support are key to improving customers' time-to-market and maintaining a high level of customer satisfaction.

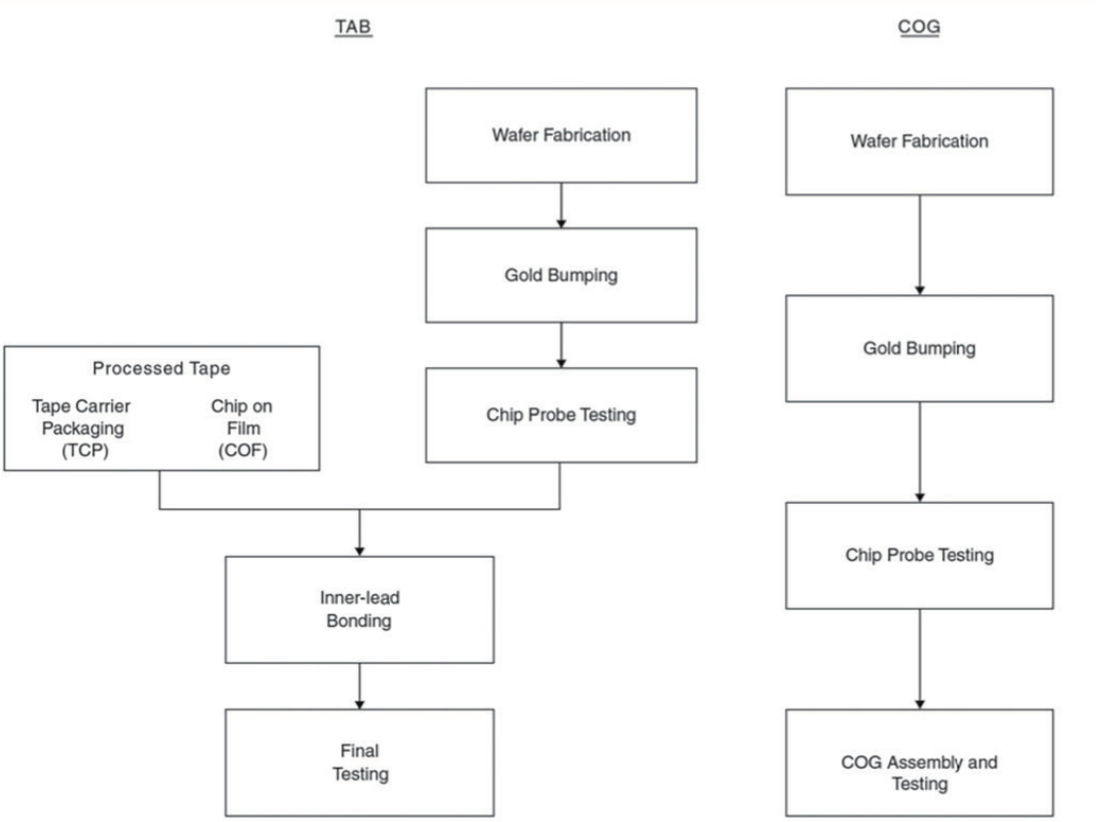
Manufacturing

We operate primarily in a fabless business model that utilizes substantially third-party foundry and assembly and testing capabilities. We leverage our experience and engineering expertise to design high-performance semiconductors and rely on semiconductor manufacturing service providers for wafer fabrication, gold bumping, assembly and testing. We also rely largely on third-party suppliers of processed tape used in TAB packaging. We engage foundries with high-voltage CMOS process technology for our display drivers and engage assembly and testing houses that specialize in TAB and COG packages, thereby taking advantage of the economies of scale and the specialization of such semiconductor manufacturing service providers. Our primarily fabless model enables us to capture certain financial and operational benefits, including reduced manufacturing personnel, capital expenditures, fixed assets and fixed costs. It also gives us the flexibility to use the technology and service providers that are the most suitable for any given product.

We operate a fab under Himax Display primarily for performing manufacturing processes for our LCOS microdisplays. Moreover, for better integration, we also established an in-house color filter facility under Himax Taiwan, which commenced shipments from 2010. The color filter line is a critical and unique process for our proprietary single-panel color LCOS microdisplays. An in-house color filter facility enhances the competitiveness of our LCOS products and creates value for our customers. In addition, we have established an in-house WLO facility under Himax Taiwan for the key process of our wafer level optics products, which started small-scale shipments from December 2009 and commenced mass shipment to anchor customer from 2017 onwards. We began construction of our new building, Fab 2, in March 2017, located nearby the current headquarters to house additional WLO capacity, the new active alignment equipment needed for our 3D sensing business and to provide extra office space. The construction of Fab 2 was completed in the first half of 2018.

Manufacturing Stages

The diagram below sets forth the various stages in manufacturing display drivers according to the two different types of assembly utilized: TAB or COG. The assembly type depends primarily on the application and design of the panel and is determined by our customers.



Wafer Fabrication: Based on our design, the foundry provides us with fabricated wafers. Each fabricated wafer contains many chips, each known as a die.

Gold Bumping: After the wafers are fabricated, they are delivered to gold bumping houses where gold bumps are plated on each wafer. The gold bumping process uses thin film metal deposition, photolithography and electrical plating technologies. The gold bumps are plated onto each wafer to connect the die to the processed tape, in the case of TAB package, or the glass, in the case of COG package.

Chip Probe Testing: Each die is electrically tested, or probed, for defects. Dies that fail this test are discarded.

Assembly and Testing: Our display drivers use two types of assembly technology: TAB or COG. Display drivers for large-sized applications typically require TAB package types and to a lesser extent COG package types,whereas display drivers for smartphone, tablet and consumer electronics products typically require COG package types.

TAB Assembly

We use two types of TAB technologies: TCP and COF. TCP and COF packages are both made of processed tape that is typically 35mm or 48mm wide, plated with copper foil and has a circuit formed within it. TCP and COF packages differ, however, in terms of their chip connections. With TCP packages, a hole is punched through the processed tape in the area of the chip, which is connected to a flying lead made of copper. By contrast, with COF packages, the lead is mounted directly on the processed tape and there is no flying lead. In recent years, COF packages have become predominantly used in TAB technology.

- *Inner-Lead Bonding:* The TCP and COF assembly process involves grinding the bumped wafers into their required thickness and cutting the wafers into individual dies, or chips. An inner lead bonder machine connects the chip to the printed circuit processed tape and the package is sealed with resin at high temperatures.

- *Final Testing:* The assembled display drivers are tested to ensure that they meet performance specifications. Testing takes place on specialized equipment using software customized for each product.

COG Assembly

COG assembly connects display drivers directly to LCD panels without the need for processed tape. COG assembly involves grinding the tested wafers into their required thickness and cutting the wafers into individual dies, or chips. Each individual die is picked and placed into a chip tray and is then visually or auto-inspected for defects. The dies are packed within a tray in an aluminum bag after completion of the inspection process.

Quality Assurance

We maintain a comprehensive quality assurance system. Using a variety of methods, from conducting rigorous simulations during the circuit design process to evaluating supplier performance at various stages of our products' manufacturing process, we seek to bring about improvements and achieve customer satisfaction. In addition to monitoring customer satisfaction through regular reviews, we implement extensive supplier quality controls so that the products we outsource achieve our high standards. Prior to engaging a third party as our supplier, we perform a series of audits on their operations, and upon engagement, we hold frequent quality assurance meetings with our suppliers to evaluate such factors as product quality, production costs, technological sophistication and timely delivery.

In November 2002, we received ISO 9001 certification, which was renewed in March 2018 and will expire in March 2021. In February 2006, we received ISO 14001 certification, which was renewed in December 2017 and will expire in December 2020. In addition, in March 2007, we received IECQ QC 080000 certification, which was renewed in February 2019 and will expire in March 2022.

Environmental Management System and Safety and Health Management System

Himax follows closely the global environmental trends, including energy saving and waste reduction, in its daily operations. The Company is certified in accordance with ISO 14001, ISO 45001 and ISO 14064.

Himax is a leader in its sector when it comes to the environment and safety, operating under measures much more stringent than domestic regulations. The Company aims to grow sustainably, delivering economic, social and environmental benefits with its healthy employees.

Himax has also been tirelessly reducing impacts to the environment and improving safety in its operations, specifically targeting product design and waste handling.

Semiconductor Manufacturing Service Providers and Suppliers

Through our relationships with leading foundries, assembly, gold bumping and testing houses and processed tape suppliers, we believe we have established a supply chain that enables us to deliver high-quality products to our customers in a timely manner.

Access to semiconductor manufacturing service providers is critical as display drivers require high-voltage CMOS process technology and specialized assembly and testing services, all of which are different from industry standards. We have obtained our foundry services from TSMC, Vanguard, Macronix, Globalfoundries Singapore and PSMC in the past few years and have also established relationships with UMC, Nexchip and SKHYSI. These are among a select number of semiconductor manufacturers that provide high-voltage CMOS process technology required for manufacturing display drivers. We engage assembly and testing houses that specialize in TAB and COG packages such as Chipbond, Chipmore International trading company Ltd., ChipMOS Technologies Inc., Nepes Corporation and King Yuan Electronics Co., Ltd.

We plan to strengthen our relationships with our existing semiconductor manufacturing service providers and diversify our network of such service providers in order to ensure access to sufficient cost-competitive and high-quality manufacturing capacity. We are selective in our choice of semiconductor manufacturing service providers. It takes a substantial amount of time to qualify alternative foundries, gold bumping, assembly and testing houses for production. As a result, we expect that we will continue to rely on a limited number of semiconductor manufacturing service providers for a substantial portion of our manufacturing requirements in the near future.

The table below sets forth (in alphabetical order) our principal semiconductor manufacturing service providers and suppliers:

Wafer Fabrication
Globalfoundries Singapore Pte., Ltd.
Macronix International Co., Ltd.
Nexchip Semiconductor Corporation
Powerchip Semiconductor Manufacturing Corp.
SK hynix system ic
Taiwan Semiconductor Manufacturing Company Limited
United Microelectronics Corporation
Vanguard International Semiconductor Corporation

Gold Bumping
Chipbond Technology Corporation
Chipmore International Trading Company Ltd.
ChipMOS Technologies Inc.
LB Semicon, Inc.
Union Semiconductor Co., Ltd.

Processed Tape for TAB Packaging
JMC Electronics Co., Ltd.
LG Innotek Co., Ltd.
Stemco., Ltd.
Chipbond Technology Corporation

Assembly and Testing
Ardentec Corporation
Advanced Semiconductor Engineering Inc.
Chipbond Technology Corporation
Chipmore International Trading Company Ltd.
ChipMOS Technologies Inc.
Global Testing Corporation
Greatek Electronics Inc.
Jiangsu Changjiang Electronics Technology Co., Ltd.
King Yuan Electronics Co., Ltd.
Micro Silicon Electronics Corp.
Nepes Corporation
Orient Semiconductor Electronics Ltd.
Taiwan IC Packaging Corporation
LB Lusem Co., Ltd.
Union Semiconductor Co., Ltd.

Chip Probe Testing
Ardentec Corporation
Chipbond Technology Corporation
Chipmore International Trading Company Ltd.
ChipMOS Technologies Inc.
Global Testing Corporation
Greatek Electronics Inc.
King Yuan Electronics Co., Ltd.
Micro Silicon Electronics Corp.
LB Semicon, Inc.
Union Semiconductor Co., Ltd.
YoungTek Electronics Corp.

Intellectual Property

As of February 28, 2021, we held a total of 3,016 patents, including 1,390 in Taiwan, 927 in the United States, 594 in China, and 105 in other countries. The expiration dates of our patents range from 2021 to 2040. We also have a total of 89 pending patent applications in Taiwan, 157 in the United States and 304 in other jurisdictions, including the PRC, Japan, Korea and Europe. In addition, we have registered “Himax and logo” as trademarks in Taiwan,China, Europe, Singapore, Korea, Japan and the United States, as well as “EMZA VISUAL SENSE and logo” and “WISEEYE” as trademarks in Israel and the United States.

Competition

The market characteristics for our products are, in general, intensely competitive, characterized by continuous technological change, evolving industry standards, and declining average selling prices. We believe key factors that differentiate the competition in our industry include:

- customer relations;
- product performance;
- design customization;
- development time / product release;
- product integration;
- technical services;
- manufacturing costs;
- supply chain management;
- timely delivery;
- economies of scale; and
- broad product portfolio.

We continually face intense competition from fabless display driver companies, including Fitipower Integrated Technology, Inc., FocalTech Systems Co., Ltd., Novatek Microelectronics Corp., Raydium Semiconductor Corporation, Sitronix Technology Co., Ltd., Silicon Works Co. Ltd., ESWIN, Chipone, Newvision, R DJ, Hisilicon and Synaptics Incorporated. We also face competition from integrated device manufacturers, such as Rohm Co., Ltd.

Some of our competitors, some of whom are affiliated or have established cross relationships with other panel manufacturers. Some have longer operating histories, or greater brand recognition, or significantly greater financial, manufacturing, technological, sales and marketing, human and other resources than we do. Additionally, we expect that as the flat panel semiconductor industry expands, more companies may enter and compete in our markets.

For In-cell TDDI, we compete with Novatek Microelectronics Cop., Synaptics Inc., Focaltech System Co., Ltd., and Ilitek Corp.

For LCOS microdisplay products, we face competition from OmniVision, Jasper, Citizen, Syndiant, Kopin, Compound Photonics and RAONTECH. We also compete with alternative microdisplay technology providers such as Texas Instruments with DLP, Sony with Micro OLED and Bosch with scanning mirror.

For power ICs, we face competition from Taiwan companies including Richtek Technology Corp., Global Mixed-mode Technology Inc., Novatek Microelectronics Corp., Fitipower Integrated Technology Inc. We also compete with worldwide suppliers such as Silergy Corp., and Rohm Co., Ltd.

For CMOS image sensor products, our focus is on machine vision. Competition in this space is primarily from OmniVision Technologies Inc., Sony Corporation and Pixart Imaging Inc.

For wafer level optics products, we face competition primarily from Heptagon that was acquired by ams AG and certain new optical design houses from China, such as Angstrong Tech, Yuguang Science and Technology Development Co.

For 3D sensing, Himax is one of the few companies that can provide the one-stop solution though there are more companies attempting to jump into the game. ams AG and Orbbec will be the main competitors we face in the worldwide.

For ultralow power smart sensing WiseEye® total solution. The main competition is Qualcomm with its "Glance" device. Few additional small size companies develop AI base edge devises, such as Lattice, Eta Computing, Nuvoton, etc. However, Himax is the only vendor who can offer a truly in-house vertically integrated solution comprise with all three building blocks required by customers: CMOS sensor, purposely designed MCU and the AI algorithm.

Insurance

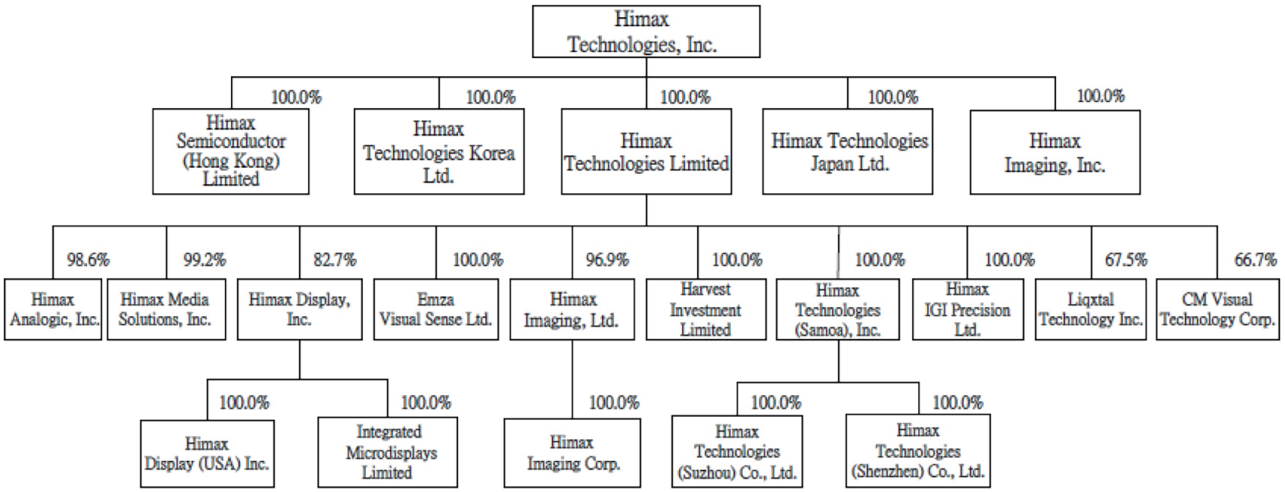
We maintain insurance policies on our buildings, equipment and inventories covering property damage and damage due to, among other events, fires, typhoons, earthquakes and floods. We maintain these insurance policies on our facilities and on transit of inventories. Additionally, we maintain director and officer liability insurance. We do not have insurance for business interruptions, nor do we have key person insurance.

Environmental Matters

Himax is required to ensure its products and is obligated to comply with valid regulations and governmental authorities' regulatory directives in applicable jurisdictions on topic of Environmental Protection. Additionally, Himax Taiwan maintains a color filter facility and a wafer level optics facility and Himax Display maintains a facility for our LCOS products as well as Himax IGI operates under the designated facility related for 3D mask production, where we have taken the necessary steps to obtain the appropriate permits and believe that we are in compliance with the existing environmental laws and regulations in the ROC and US jurisdiction applicable. In addition, we have entered into various agreements with certain customers whereby we have agreed to indemnify them, and in certain cases, their customers, for any claims made against them for hazardous material violations that are found in our products.

4.C. Organizational Structure

The following chart sets forth our corporate structure and ownership interest in each of our principal operating subsidiaries and affiliates as of February 28, 2021.



The following table sets forth summary information for our subsidiaries as of February 28, 2021.

Subsidiary	Main Activities	Jurisdiction of Incorporation	Percentage of Our Ownership Interest
Himax Technologies Limited	IC design and sales	ROC	100.0%
Himax Technologies Korea Ltd.	IC design and sales	South Korea	100.0%
Himax Technologies (Samoa), Inc.	Investments	Samoa	100.0% (1)
Himax Technologies (Suzhou) Co., Ltd.	Sales and technical support	PRC	100.0% (2)
Himax Technologies (Shenzhen) Co., Ltd.	Sales and technical support	PRC	100.0% (2)
Himax Display, Inc.	LCOS and MEMS design, manufacturing and sales	ROC	82.7% (1)
Integrated Microdisplays Limited	LCOS design	Hong Kong	82.7% (3)
Himax Display (USA) Inc.	LCOS and MEMS design, sales and technical support	Delaware, USA	82.7% (3)
Himax Analogic, Inc.	IC design and sales	ROC	98.6% (1)
Himax Imaging, Inc.	Investments	Cayman Islands	100.0%
Himax Imaging, Ltd.	IC design and sales	ROC	96.9% (1)
Himax Imaging Corp.	IC design	California, USA	96.9% (4)
Himax Media Solutions, Inc.	ASIC service	ROC	99.2% (1)
Harvest Investment Limited	Investments	ROC	100.0% (1)
Himax Technologies Japan Ltd.	Sales	Japan	100.0%
Himax Semiconductor (Hong Kong) Limited	Investments	Hong Kong	100.0%
Liqxtal Technology Inc.	LC Lens design and sales	ROC	67.5% (1)
Himax IGI Precision Ltd.	3D micro and nano structure mastering and prototype replication	Delaware, USA	100.0% (1)
Emza Visual Sense Ltd.	Visual sensors and efficient machine vision algorithm	Israel	100.0% (1)
CM Visual Technology Corp. (CMVT)	Omniwide film products design and sales	ROC	66.7% (1)

(1) Indirectly, through our 100.0% ownership of Himax Technologies Limited.
(2) Indirectly, through our 100.0% ownership of Himax Technologies (Samoa), Inc.
(3) Indirectly, through our 82.7% ownership of Himax Display, Inc.
(4) Indirectly, through our 96.9% ownership of Himax Imaging, Ltd.

4.D. Property, Plants and Equipment

Our corporate headquarters are located at a 22,172 square meter facility within the Tree Valley Industrial Park in Tainan, Taiwan. We began construction of our new building, Fab 2, in March 2017, located nearby the current headquarters. The newly completed building, located at a 42,619 square meter facility, houses additional WLO capacity, the new active alignment equipment needed for our 3D sensing business and provide extra office space. The facilities house our research and development, engineering, sales and marketing, operations and general administrative staff.

We also lease office space in Taipei and Hsinchu, Taiwan; Suzhou, Shenzhen, Foshan, Beijing, Shanghai, Ningbo, Wuhan, Hefei, Xiamen, Chongqing, China; Tokyo, Japan; Asan-si and Bundang-gu, South Korea; Givatayim, Israel; and Irvine and Campbell, California and Minneapolis, Minnesota, USA. The lease contracts may be renewed upon expiration.

We have established under Himax Taiwan an in-house WLO facility for the key process of our products, with 1,171 square meters of floor space in a building leased from Innolux, which already produced and shipped over 50 million optics to tier-1 customer from 2010. We have also expanded certain facilities for LCOS and WLO products to accommodate new customers and new applications located at our headquarters in Tainan, Taiwan. In addition, Himax Taiwan owns and operates a fab with 1,431 square meters of floor space in a building leased from Innolux in Tainan, where it established an in-house color filter facility that commenced shipments from 2010. This in-house facility provides color filter for CMOS image sensor and LCOS products. The color filter line is a critical and unique process for our proprietary single-panel color LCOS microdisplays. An in-house color filter facility enhances the competitiveness of our color-filter LCOS microdisplays products and creates value for our customers.

ITEM 4A. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

The following discussion should be read in conjunction with our audited consolidated financial statements and their accompanying notes included elsewhere herein which are prepared in accordance with IFRS.

5.A. Operating Results

For discussion related to our financial condition, changes in financial condition, and the results of operations for 2019 compared to 2018, refer to Part I, Item 5. Operating and Financial Review and Prospects, in our Annual Report on Form 20-F for the fiscal year ended December 31, 2019, which was filed with the United States Securities and Exchange Commission on March 25, 2020.

Overview

We are a fabless semiconductor solution provider dedicated to display imaging processing technologies. We are a worldwide market leader in display driver ICs and timing controllers used in TVs, laptops, monitors, mobile phones, tablets, automotive, digital cameras, car navigation, virtual reality (VR) devices and many other consumer electronics devices. Additionally, we design and provide controllers for touch sensor displays, in-cell Touch and Display Driver Integration (TDDI) single-chip solutions, LED driver ICs, power management ICs, and LCOS micro-displays for augmented reality (AR) devices and head-up displays (HUD) for automotive. We also offer CMOS image sensors, wafer level optics for AR devices, 3D sensing and ultralow power smart sensing, which are used in a wide variety of applications such as mobile phone, tablet, laptop, TV, PC camera, automobile, security, medical devices, home appliance, AIoT, etc. For display drivers and display-related products, our customers are panel manufacturers, agents or distributors, module manufacturers and assembly houses. We also work with camera module manufacturers, optical engine manufacturers, and television system manufacturers for various non-driver products.

We commenced operations through our predecessor, Himax Taiwan, in June 2001. We must, among other things, continue to expand and diversify our customer base, broaden our product portfolio, maintain our leading technology position, achieve additional design wins and manage our costs to partially mitigate declining average selling prices and any other market risks in order to maintain our profitability. Moreover, we must continue to address the challenges of being a growing technology company, including hiring and retaining managerial, engineering, operational and financial personnel and implementing and improving our existing administrative, financial and operations systems.

We operate primarily in a fabless business model that utilizes substantially third-party foundry and assembly and testing capabilities. We leverage our experience and engineering expertise to design high-performance semiconductors and rely largely on third-party semiconductor manufacturing service providers for wafer fabrication, gold bumping, assembly and testing with the exception of manufacturing of LCOS microdisplay, wafer level optics products and active alignment for 3D sensing, which we manufacture through our own factories. We are able to take advantage of the economies of scale and the specialization of our third-party semiconductor manufacturing service providers. Our primarily fabless model enables us to capture certain financial and operational benefits, including reduced manufacturing personnel, capital expenditures, fixed assets and fixed costs. It also gives us the flexibility to use the technology and service providers that are the most suitable for any given product. For LCOS microdisplay and wafer level optics products, our in-house factories enable us to protect our proprietary technologies and manufacturing expertise in the effort to further expand these businesses.

As our semiconductors are critical components of flat panel displays, our industry is closely linked to the trends and developments of the flat panel display industry, in particular, the TFT-LCD panel segment. The majority of our revenues in 2020 were derived from sales of display drivers that were eventually incorporated into TFT-LCD panels. We expect display drivers for TFT-LCD panels to continue to be our primary products. The TFT-LCD panel industry is intensely competitive and is vulnerable to cyclical market conditions. The average selling prices of TFT-LCD panels could decline for numerous reasons, which could in turn result in downward pricing pressure on our products. See "Item 3.D. Key Information—Risk Factors—Risks Relating to Our Financial Condition and Business—We derive the majority of our net revenues from sales to the TFT-LCD panel industry, which is highly cyclical and subject to price fluctuations. Such cyclicality and price fluctuations could negatively impact our business or results of operations." The revenue expansion of our non-driver products as well as TFT-LCD product trending toward high resolution and any other new product introduction help to mitigate these risks.

Factors Affecting Our Performance

Our business, financial position and results of operations, as well as the period-to-period comparability of our financial results, are significantly affected by a number of factors, some of which are beyond our control, including:

- average selling prices;
- unit shipments;
- product mix;
- design wins;
- cost of revenues and cost reductions;
- supply chain management;
- share-based compensation expenses; and
- tax credits.

Average Selling Prices

Our performance is affected by the selling prices of each of our products. We price our products based on several factors, including manufacturing costs, life cycle stage of the product, competition, technical complexity of the product, size of the purchase order and our relationship with the customer. We typically are able to charge the highest price for a product when it is first introduced. Although from time to time we are able to raise our selling prices during times of supply constraints, our average selling prices typically decline over a product's life cycle, which may be offset by changes in conditions in the semiconductor industry such as constraints in foundry capacity. For example, in 2020, the industry-wide tightening of foundry capacity has extended to backend facilities that include assembly and testing and appears to be a long-term phenomenon. Robust demand pushed foundry capacity constraints to a more severe level and rose higher material cost which in turn enabled higher average selling prices. The general trend in the semiconductor industry is for the average selling prices of semiconductors to decline over a product's life cycle due to competition, production efficiencies, emergence of substitutes and technological obsolescence. Our cost reduction efforts also contribute to this decline in average selling prices. See "—Cost of Revenues and Cost Reductions."

Our average selling prices are affected by the size and bargaining power of our customers. As new China panel makers emerge in the marketplace and continue to expand their capacity, China panel makers' bargaining power will increase accordingly, negatively impacting our average selling price. Our average selling prices are also affected by the packaging type our customers choose as well as the level of product integration. See "—Product Mix" below. Lastly, competition level affects our average selling prices as well. However, the impact of declining average selling prices on our profitability might be offset or mitigated to a certain extent by increased volume as lower prices may stimulate demand and thereby drive sales and TFT-LCD panel products trending toward higher resolution.

Unit Shipments

Our performance is also affected by the number of semiconductors we ship, or unit shipments. As our display drivers are critical components of flat panel displays, our unit shipments depend primarily on our customers' panel shipments among other factors. Our unit shipments have grown since our inception primarily as a result of our increased market share with certain major customers and their increased shipments of panels. Our growth in unit shipments also reflected the demand for higher resolution panels which typically require more display drivers. However, the development of higher channel display drivers or new technologies, if successful, could potentially reduce the number of display drivers required for each panel while achieving the same resolution. If such technologies become commercially available, the market for our display drivers will be reduced and we could experience a decline in revenue and profit. Our unit shipments also depend on the capacity we can get from our foundry, assembly and testing house. Our growth was constrained by the severe foundry capacity shortage in 2020.

Product Mix

The proportion of our revenues that is generated from the sale of different product types, also referred to as product mix, also affects our average selling prices, revenues and profitability. Our display driver products vary depending on, among other things, the number of output channels, the level of integration and the package type. Variations in each of these specifications could affect the average selling prices of such products. For example, the trend for display drivers for use in large-sized panels is toward products with a higher number of channels, which typically command higher average selling prices than traditional products with a lower number of channels. However, panels that use higher-channel display drivers typically require fewer display drivers per panel. As a result, our profitability will be adversely affected to the extent that the decrease in the number of display drivers required for each panel is not offset by increased total unit shipments and/or higher average selling prices for display drivers with a higher number of channels. The level of integration of our display drivers also affects average selling prices, as more highly integrated chips typically have higher selling prices. Additionally, average selling prices are affected by changes in the package types used by our customers. For example, the chip-on-glass package type typically has lower material costs because no processed tape is required. Moreover, our different non-driver products vary in average selling prices and costs.

The proportion of non-driver business would also affect our financial position and results of operations. For the past three years, we have experienced operating losses from our non-driver business. This was partly due to low sales volume during these periods that led to insufficient revenue to fully cover expenses such as research and development and operating expenses. We expect, however, to ramp up the volume production and sales of our non-driver products in the future and generate positive operation income from such non-driver products. Typically, our non-driver products have higher gross margins as well as higher growth potential than our driver products, we expect the overall profit margin across our product platform to improve.

Design Wins

Achieving design wins is important to our business, and it affects our unit shipments. Design wins occur when a customer incorporates our products into their product designs. There are numerous opportunities for design wins, including, but not limited to, when panel manufacturers:

- Introduce new models to improve the cost and/or performance of their existing products or to expand their product portfolio;
- establish new fabs and seek to qualify existing or new component suppliers; and
- replace existing display driver companies due to cost or performance reasons.

Design wins are not binding commitments by customers to purchase our products. However, we believe that achieving design wins is an important performance indicator. Our customers typically devote substantial time and resources to designing their products as well as qualifying their component suppliers and their products. Once our products have been designed into a system, the customer may be reluctant to change its component suppliers due to the significant costs and time associated with qualifying a new supplier or a replacement component. Therefore, we strive to work closely with current and prospective customers in order to anticipate their requirements and product roadmaps and achieve additional design wins.

Cost of Revenues and Cost Reductions

We strive to control our cost of revenues. Our cost of revenues as a percentage of total revenues in 2018, 2019 and 2020 was 76.7%, 79.5% and 75.1%, respectively. In 2020, as a percentage of Himax Taiwan's total manufacturing costs, the cost of wafer fabrication was 47.6%, the cost of processed tape was 10.7%, the cost of assembly and testing was 41.1%, and overhead was 0.6%. Our cost of revenues may increase as a result of an increase in raw material prices, any failure to obtain sufficient foundry, assembly or testing capacity or any shortage of processed tape or failure to improve our manufacturing utilization rate or production yield. As a result, our ability to manage our wafer fabrication costs, costs for processed tape, assembly and testing costs and our manufacturing utilization rate or production yield is critical to our performance. In addition, to mitigate declining average selling prices, we aim to reduce unit costs by, among other things:

- improving product design (e.g., having smaller die size allows for a larger number of dies on each wafer, thereby reducing the cost of each die);
- improving manufacturing yields through our close collaboration with our semiconductor manufacturing service providers and in our in-house manufacturing facilities; and
- achieving better pricing from a diversified pool of semiconductor manufacturing service providers and suppliers, reflecting our ability to leverage our scale, volume requirements and close relationships as well as our strategy of sourcing from multiple service providers and suppliers.

Supply Chain Management

Due to the competitive nature of the flat panel display industry and our customers' need to maintain high capacity utilization in order to reduce unit costs per panel, any delays in the delivery of our products could significantly disrupt our customers' operations. To deliver our products on a timely basis and meet the quality standards and technical specifications our customers require, we must have assurances of high-quality capacity from our semiconductor manufacturing service providers. We therefore strive to manage our supply chain by maintaining close relationships with our key semiconductor manufacturing service providers and strive to provide credible forecasts of capacity demand and seek for new manufacturing service providers in case of any manufacturer's capacity shortage. Any disruption to our supply chain could adversely affect our performance and could result in a loss of customers as well as potentially damage our reputation.

Share-Based Compensation Expenses

Our results of operations have been affected by, and we expect our results of operations to continue to be affected by, our share-based compensation expenses, which consist of charges taken relating to grants of mainly RSUs as well as stock options and non-vested shares to employees.

Restricted Share Units (RSUs). We adopted two long-term incentive plans in October 2005 and September 2011, respectively, which permit the grant of options or RSUs to our employees and non-employees where each unit represents two ordinary shares. The actual awards will be determined by our compensation committee. The 2005 plan was terminated in October 2010. We recognized share-based compensation expenses regarding RSUs under the long-term incentive plan totaling $4.1 million, $0.1 million and $4.8 million in 2018, 2019 and 2020, respectively. Of the total share-based compensation expenses recognized, $3.8 million, nil and $4.8 million in 2018, 2019 and 2020, respectively, were settled in cash. We measure and recognize compensation expense for all share-based payments at fair value.

Set forth below is a summary of our historical share-based compensation plans for the years ended December 31, 2018, 2019 and 2020 as reflected in our consolidated financial statements. However, we did not grant RSUs in 2019 but granted stock options to employees instead.

We made grants of 597,596 RSUs to our employees on September 25, 2015. The vesting schedule for such RSU grants is as follows: 94.15% of the RSU grants vested immediately and were settled by cash in the amount of $4.5 million on the grant date, with the remainder vesting equally on each of September 30, 2016, 2017 and 2018, which will be settled by our ordinary shares, subject to certain forfeiture events.

We made grants of 1,208,785 RSUs to our employees on September 28, 2016. The vesting schedule for such RSU grants is as follows: 91.93% of the RSU grants vested immediately and were settled by cash in the amount of $9.2 million on the grant date, with the remainder vesting equally on each of September 30, 2017, 2018 and 2019, which will be settled by our ordinary shares, subject to certain forfeiture events.

We made grants of 580,235 RSUs to our employees on September 29, 2017. The vesting schedule for such RSU grants is as follows: 96.91% of the RSU grants vested immediately and were settled by cash in the amount of $6.1 million on the grant date, with the remainder vesting equally on each of September 30, 2018, 2019 and 2020, which will be settled by our ordinary shares, subject to certain forfeiture events.

We made grants of 676,273 RSUs to our employees on September 26, 2018. The vesting schedule for such RSU grants is as follows: 97.15% of the RSU grants vested immediately and were settled by cash in the amount of $3.8 million on the grant date, with the remainder vesting equally on each of September 30, 2019, 2020 and 2021, which will be settled by our ordinary shares, subject to certain forfeiture events.

We made grants of 1,402,714 RSUs to our employees on September 28, 2020. The vesting schedule for such RSU grants is as follows: 98.68% of the RSU grants vested immediately and were settled by cash in the amount of $4.8 million on the grant date, with the remainder vesting equally on each of September 30, 2021, 2022 and 2023, which will be settled by our ordinary shares, subject to certain forfeiture events.

The amount of share-based compensation expense with regard to the RSUs granted to our employees on September 25, 2015, September 28, 2016, September 29, 2017, September 26, 2018 and September 28, 2020 was $7.92 per ADS, $8.30 per ADS, $10.93 per ADS, $5.76 per ADS and $3.44 per ADS, respectively, which was based on the trading price of our ADSs on that day.

Employee stock options. We made grants of 2,226,690 units of stock option to purchase 2,226,690 units ADS to certain employees at an exercise price of $2.27 on September 30, 2019. The vesting schedule was that 50% of the options vest half year after the date of grant and 50% of the options vest one year after the date of grant. During 2020, 114,500 units, 39,000 units and 10,000 units of stock option to purchase 114,500 units, 39,000 units and 10,000 units ADS were grant to certain employees at an exercise price of $2.74, $3.9 and $3.35 on March 31, 2020, August 11, 2020 and September 25, 2020, respectively. The options granted in 2020 were fully vested on October 1, 2020. We recognized share-based compensation expenses regarding stock options under the long-term incentive plan totaling $0.3 million and $0.6 million in 2019 and 2020, respectively.

Tax Credits

Our results of operations have been affected by, and we expect our results of operations to continue to be affected by, tax credits available to us.

The Statute for Industrial Innovation entitles companies to tax credits for qualifying research and development expenses related to innovation activities but limits the amount of tax credit to only up to 15% of the total qualifying research and development expenditure for the current year, subject to a cap of 30% of the income tax payable for the current year. Moreover, any unused tax credits provided under the Statute for Industrial Innovation may not be carried forward.

Based on the amendments to the above, effective from January 1, 2016 to December 31, 2019, further extended to December 31, 2029, if companies choose to extend the tax credits to three years, the tax credit rate will be 10% of the total qualifying research and development expenditure for the current year and subject to a cap of 30% of the income tax payable for each year.

Description of Certain Statements of Profit or Loss Line Items

Revenues

Historically, we have generated revenues from sales of display drivers for large-sized applications and display drivers for small and medium-sized applications. In addition, our product portfolio includes operational amplifiers, timing controllers, touch controller ICs, LCOS microdisplay, power management ICs, CMOS image sensors, 3D sensing, ultralow power smart sensing, wafer level optics products and ASIC service.

Revenues from large-sized application totaled $240.8 million in 2020, a mild increase of 1.5% year-over-year, representing 27.1% of our total revenues, as compared to 35.3% of our total revenues in 2019. During the Covid-19 pandemic, the surge in IT demand boosted the sales of monitor display drivers and notebook display drivers. TV sales, however, declined due to weakness in the global TV market which was negatively impacted by the Covid-19 outbreak.

Revenues from small and medium-sized applications totaled $515.7 million in 2020, the highest growth of 67.7% year-over-year, representing 58.1% of our total revenues, as compared to 45.8% of our total revenues in 2019. As leading Android tablet brands all adopted our TDDI solutions and global smartphone sales rebounded, we saw the extraordinary business momentum for both product areas in 2020.

Revenues from non-driver products totaled $130.8 million in 2020, an increase of 2.9% year-over-year, representing 14.8% of our total revenues, as compared to 18.9% of our total revenues a year ago. The year-over-year increase was mainly from TCON amidst the growing need for high frame rate and high-resolution displays, and CIS due to the continuous strong demand in notebook and web camera for work-from-home and online education. This increase was offset by WLO, as the legacy product of an anchor customer gradually decreased.

The following table sets forth, for the periods indicated, our revenues by amount and our revenues as a percentage of revenues by each product line:

	Year Ended December 31,					
	2018		2019		2020	
	Amount	Percentage of Revenues	Amount	Percentage of Revenues	Amount	Percentage of Revenues
	(in thousands, except percentages)					
Display drivers for large-sized applications	$ 260,540	36.0	$ 237,276	35.3	$ 240,789	27.1
Display drivers for small and medium-sized applications	325,718	45.0	307,451	45.8	515,733	58.1
Non-driver products[(1)]	137,347	19.0	127,108	18.9	130,760	14.8
Total	$ 723,605	100.0	$ 671,835	100.0	$ 887,282	100.0

Note: (1) Includes, among other things, timing controllers, touch controller ICs, LCOS projector solutions, power management IC, CMOS image sensors, programmable gamma OP, wafer level optics (WLO) products, NRE incomes, and ASIC service.

A limited number of customers account for substantially all our revenues. For example, Customer A and its affiliates accounted for 28.1%, 29.5% and 32.6% of our revenues in 2018, 2019 and 2020, respectively. Customer B and its affiliates accounted for 12.6%, 8.9% and 6.6% of our revenues in 2018, 2019 and 2020, respectively. Customer C accounted for 5.7%, 5.6% and 12.7% of our revenues in 2018, 2019 and 2020, respectively.

	Year Ended December 31,					
	2018		2019		2020	
	Amount	Percentage of Revenues	Amount	Percentage of Revenues	Amount	Percentage of Revenues
	(in thousands, except percentages)					
Customer A and its affiliates	$ 202,995	28.1	$ 198,430	29.5	$ 289,663	32.6
Customer B and its affiliates	90,844	12.6	59,781	8.9	58,345	6.6
Customer C	41,605	5.7	37,631	5.6	112,504	12.7
Others	388,161	53.6	375,993	56.0	426,770	48.1
Total	$ 723,605	100.0	$ 671,835	100.0	$ 887,282	100.0

The global TFT-LCD panel market is highly concentrated, with only a limited number of TFT-LCD panel manufacturers producing large-sized TFT-LCD panels in high volumes. We sell large-sized panel display drivers to many of these TFT-LCD panel manufacturers. Our revenues, therefore, will depend on our ability to capture an increasingly larger percentage of each panel manufacturer's display driver requirements. The sales to panel makers in China have become a significant portion of our revenue due to the Chinese panel maker business expansion which started in 2011. We derive substantially all of our revenues from sales to Asia-based customers whose end products are sold worldwide. In 2018, 2019 and 2020, approximately 23.2%, 19.2% and 13.9% of our revenues, respectively, were from customers headquartered in Taiwan and approximately 66.4%, 70.3% and 79.7% of our revenues, respectively, were from customers headquartered in China. We believe that substantially all of our revenues will continue to be from customers located in Asia, where almost all of the TFT-LCD panel manufacturers and mobile device module manufacturers are located. As a result of the regional customer concentration, we expect to continue to be subject to economic and political events and other developments that affect our customers in Asia. A substantial majority of our sales invoices are denominated in U.S. dollars.

Costs and Expenses

Our costs and expenses consist of cost of revenues, research and development expenses, general and administrative expenses, sales and marketing expenses and share-based compensation expenses. Costs would be greatly affected by product mix.

Cost of Revenues

The principal items of our cost of revenues are:

- cost of wafer fabrication;
- cost of processed tape used in TAB packaging;
- cost of gold bumping, assembly and testing; and
- other costs and expenses.

We outsource the manufacturing of our semiconductors and semiconductor solutions to semiconductor manufacturing service providers. The costs of wafer fabrication, gold bumping, assembly and testing depend on the availability of capacity and demand for such services. The wafer fabrication industry, in particular, is highly cyclical, resulting in fluctuations in the price of processed wafers depending on the available foundry capacity and the demand for foundry services.

Research and Development Expenses

Research and development expenses consist primarily of research and development employee salaries, including related employee welfare costs, costs associated with prototype wafers, processed tape, masks, molding and tooling sets and depreciation on research and development equipment. We expect to continue increasing our spending on research and development in absolute dollar amounts in the future as we continue to increase our research and development headcount and associated costs to pursue additional product development opportunities. As a percentage of revenues, our research and development expenses in 2018, 2019 and 2020 were 17.0%, 17.1% and 13.8%, respectively.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries of general and administrative employees, including related employee welfare costs, depreciation on buildings, office furniture and equipment and professional fees. We anticipate that our general and administrative expenses will increase in absolute dollar amounts as we expand our operations, hire additional administrative personnel, incur depreciation expenses in connection with the increase in office equipment and Fab 2, and incur additional compliance costs required of a publicly listed company in the United States.

Sales and Marketing Expenses

Our sales and marketing expenses consist primarily of salaries of sales and marketing employees, including related employee welfare costs, travel expenses and product sample costs. We expect that our sales and marketing expenses will increase in absolute dollar amounts over the next several years. However, we believe that as we continue to achieve greater economies of scale and operating efficiencies, our sales and marketing expenses may decline over time as a percentage of our revenues.

Share-Based Compensation Expenses

Our share-based compensation expenses consist of various forms of share-based compensation that we have historically issued to our employees and consultants, as well as share-based compensation issued to employees, directors and service providers under our 2005 and 2011 long-term incentive plans. The 2005 plan was terminated in October 2010. We allocate such share-based compensation expenses to the applicable cost of revenues and expense categories as related services are performed. See note 20 to our consolidated financial statements. Under the long-term incentive plan, we granted RSUs on December 30, 2005 to our employees and directors and again on September 29, 2006, September 26, 2007, September 29, 2008, September 28, 2009, September 28, 2010, September 28, 2011, September 26, 2012, September 26, 2013, September 26, 2014, September 25, 2015, September 28, 2016, September 29, 2017, September 26, 2018 and September 28, 2020 to our employees. We did not grant RSUs in 2019 but granted stock options to employees instead. Share-based compensation expenses recorded regarding RSUs under the long-term incentive plan totaled $4.1 million, $0.1 million and $4.8 million in 2018, 2019 and 2020, respectively. Share-based compensation expenses recorded regarding stock options under the long-term incentive plan totaled $0.3 million and $0.6 million in 2019 and 2020, respectively.

Income Taxes

Since we and our direct and indirect subsidiaries are incorporated in different jurisdictions, we file separate income tax returns. Under the current laws of the Cayman Islands, we are not subject to income or capital gains tax. Additionally, dividend payments made by us are not subject to withholding tax in the Cayman Islands. However, if the relevant bylaws of the PEM rules have been adequately enacted and properly advocated, we may be determined to be within the territory of the ROC and our income tax shall be levied in accordance with the Income Tax Act and relevant tax regulations. Therefore, dividend payments made by us would be subject to withholding tax in the ROC. We recognize income taxes at the applicable statutory rates in accordance with the jurisdictions where our subsidiaries are located and as adjusted for certain items including accumulated losses carried forward, non-deductible expenses, research and development tax credits, as well as changes in our deferred tax assets and liabilities.

On December 22, 2017, the U.S. President Trump signed into law H.R. 1, known as the "Tax Cuts and Jobs Act" that significantly changes the United States federal income tax system. Among a number of significant changes to the current United States federal income tax rules, the Tax Cuts and Jobs Act reduces the marginal United States corporate income tax rate from 35% to 21%, limits the deduction for net interest expense, shifts the United States toward a more territorial tax system, and imposes new taxes to combat erosion of the United States federal income tax base. The Company does not expect the Tax Cuts and Jobs Act to have a material effect on the Company's results of operations.

Critical Accounting Policies and Estimates

We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements in accordance with IFRS.

Inventory

Inventories are stated at the lower of cost and net realizable value, and we use judgment and estimate to determine the net realizable value of inventory at the end of each reporting period. Due to the rapid technological changes, we estimate the net realizable value of inventory for obsolescence and unmarketable items at the end of reporting period and then writes down the cost of inventories to net realizable value. The net realizable value of the inventory is mainly determined based on assumptions of future demand within a specific time horizon. The inventory write-downs in 2018, 2019 and 2020 were approximately $17.7 million, $25.4 million and $11.9 million, respectively, and were included in cost of revenues in our consolidated statements of profit or loss.

Impairment of Non-financial Assets other than Goodwill

We routinely review our non-financial assets at the reporting date to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. The recoverable amount of an asset or cash-generating unit is the greater of its value in use and its fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. However, due to the cyclical nature of our industry and changes in our business strategy, market requirements, or the needs of our customers, we may not always be in a position to accurately anticipate declines in the utility of our equipment or acquired technology until they occur. Although we have the recurring losses in non-Driver product segment, we remain positive on the long-term prospect of our non-Driver product segment, judging by the expanding customer list that covers some of the world's biggest tech names, and the busy engineering activities going on with such customers. For the years ended December 31, 2018, 2019 and 2020, we did not recognize any impairment loss on non-financial assets.

Goodwill

We evaluate goodwill for impairment at least annually, or more frequently when there is an indication that the cash-generating unit (CGU) may be impaired. For the purpose of impairment testing, goodwill is allocated to each of the Company's CGU or groups of CGU that are expected to benefit from the synergies of the combination. If the recoverable amount of a CGU is less than its carrying amount, the difference is allocated first to reduce the carrying amount of any goodwill allocated to such CGU and then to the other assets of the CGU pro rata based on the carrying amount of each asset in the CGU. Any impairment loss for goodwill is recognized directly in profit or loss. An impairment loss recognized for goodwill is not reversed in subsequent periods.

The recoverable amount is the higher of fair value less costs of disposal and value in use. The assessment of impairment of goodwill requires management to make subjective judgment to determine the identified CGU, allocate the goodwill to relevant CGU and estimate the recoverable amount of relevant CGU. In the process of estimating the recoverable amount of relevant CGU, management is required to make subjective judgments in determining the discounted rate, the terminal growth rate, the independent cash flows, useful lives, expected future revenue and expenses related to the CGU.

As of December 31, 2019 and 2020, goodwill in Driver IC CGU and WLO CGU was $26,846 thousand and $1,292 thousand, respectively. For the years ended December 31, 2018, 2019 and 2020, we did not recognize any impairment loss on goodwill.

Income Taxes

According to the ROC Income Tax Act, dividends distributed by a Taiwan company to its foreign shareholders are subject to ROC withholding tax, currently at the rate of 21% on the amount of the distribution in the case of cash dividends or on the par value of the ordinary shares in the case of stock dividends. The surtax rate for undistributed earnings is currently 5%. However, surtax paid on undistributed earnings can no longer be used to offset against the withholding tax imposed on the dividend distributed to foreign shareholders.

As of December 31, 2020, we have not provided for retained earnings tax on the undistributed earnings of approximately $640.5 million of our subsidiaries since we have specific plans to reinvest these earnings indefinitely. The undistributed earnings in our foreign subsidiaries are mainly from Himax Taiwan totaling approximately $639.4 million as of December 31, 2020. We intend to use accumulated and future earnings of Himax Taiwan to expand operations in Taiwan.

However, a deferred tax liability will be recognized when the Taiwanese company can no longer demonstrate that it plans to reinvest indefinitely these undistributed earnings. This amount becomes taxable when we execute other investments, share buybacks or shareholder dividends to be funded by cash distribution by our foreign subsidiaries. It is not practicable to estimate the amount of additional taxes that might be payable on such undistributed earnings.

We are a holding company located in the Cayman Islands and have paid dividends and repurchased outstanding shares. To fund such dividends and repurchases, in the past years, we have received cash from bank loans and from Himax Taiwan through intercompany borrowings instead of dividends distributed by Himax Taiwan.

As part of the process of preparing our consolidated financial statements, our management is required to estimate income taxes and tax bases of assets and liabilities for us and our subsidiaries. This process involves estimating current tax exposure together with assessing temporary differences resulting from differing treatments of items for tax and accounting purposes and the amount of tax credits and tax loss carry-forward. These differences result in deferred tax assets and liabilities, which are included in the consolidated statements of financial position. Management must then assess deferred tax assets at each reporting date and reduce to the extent that it is no longer probable that the related tax benefit will be realized; such reductions are reversed when the probability of future taxable profits improves.

Consolidated Results of Operations

The following table sets forth a summary of our consolidated statements of profit or loss as a percentage of revenues:

	Year Ended December 31,		
	2018	**2019**	**2020**
Revenues	100.0%	100.0%	100.0%
Costs and expenses:			
Cost of revenues	76.7	79.5	75.1
Research and development	17.0	17.1	13.8
General and administrative	2.9	3.5	2.7
Sales and marketing	2.9	2.6	1.9
Total costs and expenses	99.5	102.7	93.5
Operating income (loss)	0.5	(2.7)	6.5
Non-operating income (loss)	0.5	0.4	(0.1)
Income tax expense	0.2	0.1	1.3
Profit (loss) for the year	0.8	(2.4)	5.1
Loss attributable to noncontrolling interests	0.4	0.4	0.2
Profit (loss) attributable to Himax stockholders	1.2	(2.0)	5.3

Year Ended December 31, 2020 Compared to Year Ended December 31, 2019

Revenues. Our revenues increased by 32.1% to $887.3 million in 2020 from $671.8 million in 2019. The increase was attributable mainly to the highest growth of 67.7% in revenues from small and medium-sized applications to $515.7 million in 2020 from $307.4 million in 2019. The increase in demand for these products was driven by the new stay-at-home environment during the Covid-19 pandemic outbreak. From a year-over-year perspective, both tablet and smartphone demonstrated extraordinary sales growth, yet growth was constrained by the severe foundry capacity shortage. Revenues from display drivers for large-sized application totaled $240.8 million in 2020, a mild increase of 1.5% year-over-year. During the Covid-19 pandemic, the surge in IT demand boosted our sales of monitor display drivers and notebook display drivers. TV sales, however, declined year-over-year due to weakness in the global TV market which was negatively impacted by the Covid-19 outbreak. Revenues from non-driver products increased to $130.8 million in 2020 from $127.1 million in 2019, an increase of 2.9% year-over-year. The year-over-year increase was mainly from TCON amidst the growing need for high frame rate and high-resolution displays, and CIS due to the continuous strong demand in notebook and web camera for work-from-home and online education. This increase was offset by WLO, as the legacy product of an anchor customer gradually decreased.

Costs and Expenses. Costs and expenses increased by 20.2% to $829.4 million in 2020 from $690.1 million in 2019. As a percentage of revenues, costs and expenses decreased to 93.5% in 2020 compared to 102.7% in 2019.

- *Cost of Revenues.* Cost of revenues increased to $666.5 million in 2020 from $533.9 million in 2019. The increase in cost of revenues was due primarily to a 5.4% increase in unit shipments in 2020, as compared to 2019. Inventory write-downs, which are included in cost of revenues, decreased to $11.9 million in 2020 from $25.4 million in 2019. As a percentage of revenues, cost of revenues decreased to 75.1% in 2020 from 79.5% in 2019.

- *Research and Development.* Research and development expenses increased by 6.4% to $122.3 million in 2020 from $114.9 million in 2019. This increase was primarily attributable to increase in the salary expense, cash bonus, RSU compensation and tape out expense. The increase in salary expense was primarily attributable to NT dollar appreciation against US dollar as we pay the bulk of our employee salaries in NT dollars.

- *General and Administrative.* General and administrative expenses increased by 1.0% to $23.9 million in 2020 from $23.7 million in 2019, primarily as a result of increases in salary expense and RSU compensation.

- *Sales and Marketing.* Sales and marketing expenses decreased by 5.8% to $16.7 million in 2020 from $17.6 million in 2019. This decrease was primarily attributable to decreases in the travel expense but partially offset by higher salary expense and RSU compensation.

Non-Operating Income (loss). We had net non-operating loss of $1.1 million in 2020 compared to net non-operating income of $2.5 million in 2019. We recognized change in fair value of financial assets at fair value through profit or loss of $0.5 million in 2020 and $3.7 million in 2019, respectively.

Income Tax Expense. Our income tax expense increased to $11.7 million in 2020 from $0.4 million in 2019. Our effective income tax rate increased to 20.6% from (2.6%) in 2019. The increase in our effective income tax rate was primarily attributable to the increase in pre-tax profit $56.9 million in 2020 from pre-tax loss $15.8 million in 2019.

Profit for the year. As a result of the foregoing, our profit for the year of $45.2 million in 2020, versus our loss for the year was $16.2 million in 2019, and profit attributable to Himax stockholders of $47.1 million in 2020, versus loss attributable to Himax stockholders was $13.6 million in 2019.

Segment Results

The following table sets forth the revenues and operating results for our reportable segments for the periods indicated:

	Year Ended December 31,		
	2018	2019	2020
		(in thousands)	
Segment Revenues			
Driver IC	$ 586,258	$ 544,727	$ 756,522
Non-Driver Products	137,347	127,108	130,760
Total	$ 723,605	$ 671,835	$ 887,282

	Year Ended December 31,		
	2018	2019	2020
		(in thousands)	
Segment Operating Income (loss)			
Driver IC	$ 56,023	$ 29,070	$ 98,687
Non-Driver Products	(52,638)	(47,377)	(40,761)
Total	$ 3,385	$ (18,307)	$ 57,926

Driver IC Segment

Year Ended December 31, 2020 Compared to Year Ended December 31, 2019

Segment revenues. Our revenues from the Driver IC segment increased by 38.9% to $756.5 million in 2020 from $544.7 million in 2019. The increase was mainly from the higher growth of 67.7% in display drivers for small and medium-sized applications with sales totaling $515.7 million.

Segment operating income. Operating income from the Driver IC segment increased to $98.7 million in 2020 from $29.1 million in 2019. This increase was primarily attributable to an increase in revenues in 2020 as compared to 2019 and higher gross margin.

Non-Driver Products Segment

Year Ended December 31, 2020 Compared to Year Ended December 31, 2019

Segment revenues. Our revenues from the Non-Driver Products segment increased by 2.9% to $130.8 million in 2020 from $127.1 million in 2019. The year-over-year increase was mainly from TCON and CIS but partially offset by WLO decreased.

Segment operating loss. Operating loss from the Non-Driver Products segment decreased to $40.8 million in 2020 from $47.4 million in 2019. The operating loss decreases was attributable mainly to the increase in revenues and higher gross margin.

5.B. Liquidity and Capital Resources

We need cash primarily for technology advancement, capacity expansion, paying dividends and working capital. We have historically been able to meet our cash requirements through cash flow from operations and borrowings to pay dividends.

As of December 31, 2020, we had total current assets of $694.4 million, total current liabilities of $352.2 million and cash and cash equivalents of $184.9 million. As of December 31, 2020, we had short-term secured borrowings of $104.0 million with cash and time deposits of $104.0 million as collateral, and long-term unsecured borrowings of $58.5 million, of which $6.0 million was current portion. For enhancing the guaranty, our land, building and improvements of Fab 2 totaling $71.1 million were pledged as collateral for the long-term unsecured borrowings. As of December 31, 2020, we had total unused short-term credit lines of $280.9 million, of which $21.1 million will expire before the end of March 2021, and $193.0 million belonging to the parent company needs to be secured with equal amount of cash and time deposits when borrowing money from banks. Besides, we had unused long-term credit lines of $40 million. We believe that our existing short-term and long-term credit lines, together with cash generated from our operations, are sufficient to liquidity needs. We expect to meet our present working capital requirements through cash flow from operations and bank borrowings from time to time.

The following table sets forth a summary of our cash flows for the periods indicated:

	Year Ended December 31,		
	2018	2019	2020
		(in thousands)	
Net cash provided by operating activities	$ 4,009	$ 7,656	$ 102,610
Net cash used in investing activities	(38,266)	(47,767)	(22,365)
Net cash provided by financing activities	2,801	35,261	3,261
Net increase (decrease) in cash and cash equivalents	(31,586)	(5,382)	83,883
Cash and cash equivalents at beginning of period	138,023	106,437	101,055
Cash and cash equivalents at end of period	106,437	101,055	184,938

Operating Activities. Net cash provided by operating activities in 2020 was $102.6 million compared to $7.7 million in 2019. This increase in net cash provided by operating activities in 2020 was mainly due to improved profitability in 2020 compared to 2019.

Investing Activities. Net cash used in investing activities in 2020 was $22.4 million compared to $47.8 million in 2019. This decrease in net cash used in investing activities was due primarily to decrease in acquisition of

property, plant and equipment in 2020 compared to 2019 but partially offset by higher refundable deposits in 2020 compared to 2019.

Financing Activities. Net cash provided by financing activities in 2020 was $3.3 million compared to $35.3 million in 2019. This decrease was due primarily to a decrease in unsecured borrowings $35.9 million in 2020 compared to 2019. Our liquidity could be negatively impacted by a decrease in demand for our products that are subject to rapid technological change, among other factors, which could result in revenue variability in future periods. In addition, we have at times agreed to extend the payment terms for certain of our customers. The extension of payment terms for our customers could adversely affect our cash flow, liquidity and our operating results. Our subsidiaries' ability to distribute dividends and other payments to us may be limited by ROC regulations. See "Risk Factors — Risks Related to Our Holding Company Structure — Our ability to receive dividends and other payments or funds from our subsidiaries may be restricted by commercial, statutory and legal restrictions, and thereby materially and adversely affect our ability to grow, fund investments, make acquisitions, pay dividends and otherwise fund and conduct our business."

Our capital expenditures were incurred primarily in connection with the purchase of property and equipment. Our capital expenditures totaled $49.7 million, $45.9 million and $5.8 million in 2018, 2019 and 2020, respectively, higher than usual capital expenditure due to our Fab 2 construction and WLO capacity expansion in 2018 and 2019. Capital expenditures of $5.8 million in 2020 was mainly for design tools and R&D related equipment related to our traditional IC design business.

The capex budget will be funded through our internal resources and banking facilities, if so needed. We will continue to make capital expenditures to meet the expected growth of our operations. We believe that our working capital and borrowings under our existing and future credit lines should be sufficient for our present requirements.

5.C. Research and Development

Our research and development efforts focus on improving and enhancing our core technologies and know-how relating to the semiconductor solutions we offer to the flat panel display industry. In particular, we have committed a significant portion of our resources to the research and development of non-driver products because we believe in the long-term business prospects of such products and are committed to continuing to diversify our product portfolio. Although a significant portion of the resources at our integrated circuit design center are invested in advanced research for future products, we continue to invest in improving the performance and reducing the costs of our existing products. Our application engineers, who provide on-system verification of semiconductors and product specifications, and field application engineers, who provide on-site engineering support at our customers' offices or factories, work closely with panel manufacturers to co-develop display solutions for their electronic devices. In 2018, 2019 and 2020, we incurred research and development expenses of $123.0 million, $114.9 million and $122.3 million, respectively, representing 17.0%, 17.1% and 13.8% of our revenues, respectively.

5.D. Trend Information

2020 has been a challenging year for both Himax and the world. Uncertainty in the global economy brought by Covid-19 overshadowed the marketplace with management of logistics, including worldwide customs operations in various ports, and the supply chain were impacted significantly. Despite these dramatic headwinds, we saw positive momentum and a strong outlook as many countries reopened following a long period of lockdown. As a result, we delivered a strong financial result compared to 2019 as our business rebounded strongly throughout the second half of 2020 with fresh demands brought by the new stay-at-home economy. The upbeat of gross margin in fourth quarter of 2020, on the other hand, is a reflection of the industry-wide tight foundry capacity that we can implement better pricing strategy and product mix to customers.

Against the backdrop of Covid-19 and US sanctions on China brought turbulence to the market, our small/medium driver IC segment posted the highest growth among our three major product categories in 2020 as leading Android tablet brands adopted our TDDI solutions and global smartphone sales rebounded. On the supply side, Himax and some of our major panel customers were already seeing foundry capacity shortage of 8-inch and 12-inch silicon wafers for display driver ICs as industry-wide capacity shortage appears to be a long-term phenomenon and the overall semiconductor industry supply will not have any significant increase any time soon. Himax is also experiencing major foundry supply shortage in quite a few business areas, including TDDI and DDIC for smartphone, tablet and automotive applications as well as CMOS. Robust demand pushed foundry capacity constraints to a more severe level and has extended to backend facilities that include assembly and testing. In anticipation of this, we engaged early with foundries and have succeeded in securing more capacity for 2021 as compared to the level of fourth quarter of 2020 when we reached the recent peak quarterly shipment.

Large-sized Display Driver IC Segment

Sensing strong signs of panel price recovery, panel makers began to increase production starting the third quarter of 2020. During the Covid-19 pandemic, the surge in IT demand boosted our sales of monitor and notebook display drivers. Our TV sales declined as global TV market was negatively impacted by the Covid-19 outbreak in 2020. We saw customers proceeding with aggressive promotion in high-resolution models, that require high end drivers and TCON, in anticipation of sustained strong demand for home entertainment during the Covid-19 pandemic. However, our display driver IC and TCON shipments are still capped by supply shortage in foundry and packaging, despite firm demand from strong consumer spending and home entertainment demand.

Small and Medium-Sized Display Driver IC Segment

In this segment, our TDDI product roadmap as well as new design-wins with end customers and a foundry capacity advantage have positioned Himax to gain market share. TDDI for both tablet and smartphone posted extraordinary sales growth especially in the second half of 2020. In the first quarter of 2021, we see continuous strong TDDI sales with demand still surpassing supply. Foundry capacity remains a major issue that adversely impacts our shipping capability. With smartphone and tablet sharing the same foundry pool, we strategically allocate capacity to the products where we are the dominant or sole supplier.

Tablet was one of our top sales contributors in 2020 thanks largely to the fast rising TDDI penetration for Android names and the strong demand driven by the stay-at-home economy. To further broaden our product offering and solidify our market position, our tablet TDDI has moved toward higher frame rate, higher resolution and larger screen sized solutions. We have also enhanced touch accuracy through our leading active stylus design for better-quality handwriting and drawing.

As expected, our traditional discrete driver IC sales into smartphone continue its declining trend in 2020 as the market is being quickly replaced by TDDI and AMOLED. Himax is highly committed to AMOLED technology. Our development started from smartphone, and has extended to wearable, tablet and automotive. We have some encouraging progresses with leading Chinese panel makers and will report in due course. We believe AMOLED driver IC will soon become one of the major growth drivers for our small and medium panel driver IC business.

In the automotive display segment, the number of displays per vehicle continues to rise as the overall automobile market recovered from the third quarter 2020, despite the global shortage of semiconductor components has brought great challenges to the world's automotive industry. As most of the world’s lockdown periods end, tightening foundry capacity, combined with the sudden surge in orders due to pent-up demand, have left the industry facing an even more severe shortage compared to other sectors. Customers now rely on “just in time” delivery of IC components to preserve production. In consideration of unceasing sales demand amidst tight capacity shortage, we worked strategically with panel makers, tier-1 and end customers, across different continents, and have secured an enlarged volume of foundry capacity while managing swift production adjustments to meet customers’ production schedules. By offering supportive logistics, we hope to further our relationship with customers, who can in return help accelerate our new technology into their new models going forward.

With electric vehicles quickly emerging as the “next big thing”, we see the car market embracing new display technologies and shifting towards larger, more sophisticated and higher performing displays like never before. Already the market leader in automotive display driver business, we foresee further market share gains in the coming years in this fast-growing market. We continue to sustain our competitive position with a comprehensive product offering for advanced new features such as TDDI for in-cell touch, local dimming, cascade-topology connection, P2P high-speed interface bridging functions, and LTDI for larger in-cell display. As a reminder, we launched the world’s first TDDI design for automotive displays technology which started shipping in 2019 with meaningful volume anticipated starting 2021. As EV grows in popularity and autonomous driving develops, our technological prowess continues to separate us from peers for the next generation display for automotive.

The non-driver category has been our most exciting growth area and a differentiator for the Company. We are devoted to the development, manufacturing and marketing of non-driver products to diversify our customer base and product portfolio to offer total solutions of image processing and human interface related technologies in addition to our driver IC products. Our non-driver products delivered the strongest growth in 2014 owing to many new product launches and project wins. During 2016, our non-driver businesses experienced tremendous growth, primarily driven by the LCOS and WLO businesses due to shipments to one of our leading AR device customers. Additionally, our WLO business hit inflection in the middle of 2017 when we began mass shipment to an anchor customer.

The overall 2018 shipment increased considerably year-over-year because of the customer's large-scale adoption in more models. In 2020, we continued to fulfill anchor customer's demand for the legacy product. We continue to make progress with our ongoing R&D projects for next generation products centered around our exceptional design know-how and mass production expertise in WLO technology. With leading nanoimprinting technologies and diffraction optics design capability, we continue to engage and collaborate with key customers and partners for their next generation products, which focuses on ToF 3D sensing, AR/VR gadgets, biomedical devices and others.

3D sensing in the smartphone segment, we have advanced our WLO optics solution to cover time-of-flight (ToF) 3D sensing. We are seeing more ToF camera design activities among Android smartphone makers for 3D sensing and are making good progress by offering our leading ToF optical components including diffractive DOEs, micro-lens arrays and diffusers to meet diversified demand from a wide variety of customers/partners including VCSEL suppliers, ToF sensor vendors, ToF module makers and smartphone OEMs. Our non-smartphone 3D-sensing engagements, we provide customers who wish to design their own structured light-based 3D sensing solution with our proprietary 3D decoder IC. Our 3D decoder can accelerate local image processing for face recognition and offer best-in-class security authentication. It was already certified by the leading Chinese electronic payment standard with requirements of accurate data decoding, timely operation and strict privacy. We have started volume shipment in the third quarter of 2020 with decent order pipeline for 2021 and further new design-in sockets on the way.

Regarding ultralow power smart sensing, the demand for battery-powered smart device with AI intelligent sensing is rapidly growing. WiseEye is our AI-based ultralow power smart sensing solution, built on Emza's or third-party's AI-based algorithm, on top of Himax's proprietary computer vision processor, WE-I Plus, and CMOS image sensor, all equipped with ultralow power design. For total solution, we are currently aiming at notebook, TV and air conditioner applications, and have received positive feedbacks. We expect to start a solid production ramp-up by the end of 2021. With joint efforts with our subsidiary EMZA and other algorithm partners, further engagements are on the way for more applications such as doorbell, door lock, automotive and various IoT devices for industrial and commercial uses. We are thrilled about the business progress achieved.

For the other business model of our smart sensing where we provide key components, our WE-I Plus AI processor adopted Google TensorFlow Lite for Microcontrollers framework in June 2020 and has successfully demonstrated our unrivaled computing capability with ultralow power. In December 2020, we partnered with SparkFun, an online retail store, to distribute Himax WE-I Plus Edge AI evaluation board and AoS sensor modules. Developers can now access our technologies easily from SparkFun and transform their AI-enabling concept which call for ultralow power and computer vision AI into real products. Furthermore, we teamed up with Edge Impulse who provides a leading end-to-end AI developer platform offering intuitive user interface. On Edge Impulse' platform, with a single button press and within seconds, developers can now generate the latest neural network AI model and export it directly onto the WE-I Plus evaluation board. The high technical obstacles developers usually face can therefore be dramatically lowered.

Together with our partners, we are carrying out a wide range of promotional activities to broaden WiseEye's market reach and establish direct contacts with more AI developers. We believe the WiseEye offerings will start contributing to our top and bottom lines later 2021. We aim to make it a major contributor to our long-term business growth.

We see continuous surging demands for our CMOS image sensors for web camera and notebook as the new norm of virtual conferences shows no signs of receding. Separately, our industry-first 2-in-1 CMOS image sensor that supports RGB mode for video conferencing and ultralow power AI mode for facial recognition have penetrated the laptop market for the most stylish super slim bezel designs. We have shipped small quantity in the fourth quarter of 2020 and expect to ship more during 2021.

On timing controller, the aggressive promotion by major TV brands will benefit our high-end TCON business as our 8K TV timing controllers, as well as display drivers, have been widely adopted by multiple leading end customers. Our TCON technology not only provides higher resolution, higher frame rate and better image quality, it can also enable lower power in products where power consumption is critical. Timing controller products enjoy better margin and ASP than those of display drivers and now it represents over 5% of our total sales. We expect this segment to be an extensive long-term growth area.

Lastly, on LCOS, we continue to focus on AR goggle devices and head-up-displays (HUD) for automotive. Many of our industry-leading customers have demonstrated their state-of-the-art products, including holographic HUD, AR glasses and LiDAR system, with Himax LCOS technology inside. Our technology leadership and proven manufacturing expertise have made us a preferred partner for customers in these emerging markets and their ongoing engineering projects in AR goggles and HUD for automotive applications.

For more trend information, see "Item 5.A. Operating and Financial Review and Prospects—Operating Results."

5.E. Off-Balance Sheet Arrangements

As of December 31, 2020, we did not have any off-balance-sheet guarantees, interest rate swap transactions or foreign currency forwards. We do not engage in trading activities involving non-exchange traded contracts. Furthermore, as of December 31, 2020, we did not have any interests in variable interest entities.

5.F. Tabular Disclosure of Contractual Obligations

The following table sets forth our contractual obligations as of December 31, 2020:

	Payment Due by Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
			(in thousands)		
Short-term secured borrowings	104,000	104,000	-	-	-
Long-term unsecured borrowings	58,500	6,000	12,000	12,000	28,500
Purchase obligations[(1)]	294,004	294,004	-	-	-
Other obligations	5,608	2,542	2,056	1,010	-
Total	462,112	406,546	14,056	13,010	28,500

Notes: (1) Includes obligations for purchase of equipment, computer software and machinery and wafer fabrication, raw material, supplies, assembly and testing services.

As of December 31, 2020, the short-term secured borrowings consisted of bank loans with interest rates per annum that ranged from 0.33% to 0.40%, and cash and time deposit totaling $104,000 thousand are pledged as collateral. The long-term unsecured borrowings consisted of bank loans with interest rates per annum that ranged from 0.68819% to 0.92112%, with our land, building and improvements of Fab 2 totaling $71.1 million were pledged as collateral for enhancing the guaranty.

We have, from time to time, entered into contracts for the acquisition of equipment and computer software. As of December 31, 2020, the remaining commitments under such contracts were $3.9 million. These outstanding contracts had a total contract value of $4.9 million.

Pursuant to several wafer fabrication or assembly and testing service arrangements we entered into with service providers, we may be obligated to make payments for purchase orders made under such arrangements. As of December 31, 2020, our contractual obligations pursuant to such arrangements amounted to approximately $290.1 million.

Under the ROC Labor Standard Law, we established a defined benefit plan and were required to make monthly contributions to a pension fund in an amount equal to 2% of wages and salaries of our employees. Under the ROC Labor Pension Act, beginning on July 1, 2005, we are required to make a monthly contribution for employees that elect to participate in the new defined contribution plan of no less than 6% of the employee's monthly wages, to the employee's individual pension fund account. Substantially all participants in the defined benefit plan have elected to participate in the new defined contribution plan. Participants' accumulated benefits under the defined benefit plan are not impacted by their election to change plans. We are required to make contributions to the defined benefit plan until it is fully funded. Total contributions to the new defined contribution plan in 2020 were $3.3 million compared to $3.3 million and $3.5 million in 2019 and 2018, respectively. Total contributions to the defined benefit plan and the new defined contribution plan in 2020 were $3.3 million compared to $3.4 million and $3.7 million in 2019 and 2018, respectively. Such changes in contributions have not, and are not expected to have, a material effect on our cash flows or results of operations.

Inflation

Inflation in Taiwan has not had a material impact on our results of operations in recent years. However, an increase in inflation can lead to increases in our costs and lower our profit margins. According to the Directorate General of Budget, Accounting and Statistics, Executive Yuan, ROC, the changes of the consumer price index in Taiwan were 1.35%, 0.56% and -0.23% in 2018, 2019 and 2020, respectively.

Recent Accounting Pronouncements

Please refer to note 3 to the consolidated financial statements.

5.G. Safe Harbor

See "Forward-Looking Statements" on page 4 of this annual report.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

6.A. Directors and Senior Management

Members of our board of directors may be elected by our directors or our shareholders. Our board of directors consists of five directors, three of whom are independent directors within the meaning of Rule 5605(a)(2) of the Nasdaq Rules. Other than Jordan Wu and Dr. Biing-Seng Wu, who are brothers, there are no family relationships between any of our directors and executive officers. The following table sets forth information regarding our directors and executive officers as of February 28, 2021. Unless otherwise indicated, the positions or titles indicated in the table below refer to Himax Technologies, Inc.

Directors and Executive Officers	Age	Position/Title
Dr. Biing-Seng Wu	63	Chairman of the Board
Jordan Wu	60	President, Chief Executive Officer and Director
Dr. Yan-Kuin Su	72	Director
Yuan-Chuan Horng	69	Director
Hsiung-Ku Chen	69	Director
Jessica Pan	51	Chief Financial Officer
Norman Hung	63	Executive Vice President, Sales and Marketing
Eric Li	58	Chief IR/PR Officer and Spokesperson

Directors

Dr. Biing-Seng Wu is the chairman of our board of directors. Prior to our reorganization in October 2005, Dr. Wu served as president, chief executive officer and a director of Himax Taiwan. Dr. Wu also served as the vice chairman of the board of directors of CMO prior to its merger with the predecessor of Innolux and TPO. Dr. Wu has been active in the TFT-LCD panel industry for over 20 years and is a member of the boards of the Taiwan TFT-LCD Association and the Society for Information Display. Prior to joining CMO in 1998, Dr. Wu was senior director and plant director of Prime View International Co., Ltd., a TFT-LCD panel manufacturer, from 1993 to 1997, and a manager of Thin Film Technology Development at the Electronics Research & Service Organization/ Industry Technology Research Institute, or ERSO/ITRI, of Taiwan. Dr. Wu holds a B.S. degree, an M.S. degree and a Ph.D. degree in electrical engineering from National Cheng Kung University. Dr. Wu is the brother of Mr. Jordan Wu, our president and chief executive officer.

Jordan Wu is our president, chief executive officer and director. Prior to our reorganization in October 2005, Mr. Wu served as the chairman of the board of directors of Himax Taiwan, a position which he held since April 2003. Prior to joining Himax Taiwan, Mr. Wu served as chief executive officer of TV Plus Technologies, Inc. and chief financial officer and executive director of DVN Holdings Ltd. in Hong Kong. Prior to that, he was an investment banker at Merrill Lynch (Asia Pacific) Limited, Barclays de Zoete Wedd (Asia) Limited and Baring Securities, based in Hong Kong and Taipei. Mr. Wu holds a B.S. degree in mechanical engineering from National Taiwan University and an M.B.A. degree from the University of Rochester. Mr. Wu is the brother of Dr. Biing-Seng Wu, our chairman.

Dr. Yan-Kuin Su is our director. He has retired from the president of Kun Shan University effective July 31, 2018 and also a professor in the Department of Electrical Engineering, National Cheng Kung University since 1983 and retired in 2011. Dr. Su is devoted to the field of research in semiconductor engineering and devices, optoelectronic devices, and microwave device and integrated circuits. He is a fellow of the Institute of Electrical and Electronics Engineers, or IEEE. Dr. Su holds a B.S. degree and an M.S. degree and a Ph.D. degree in Electrical Engineering from National Cheng Kung University.

Yuan-Chuan Horng is our director. Prior to our reorganization in October 2005, Mr. Horng served as a director of Himax Taiwan from August 2004 to October 2005. Mr. Horng retired from the position of the vice president of the Finance Division of China Steel Corporation, a TWSE-listed Corporation, effective November 30, 2016. During his 40 years of services with China Steel Corporation Group, Mr. Horng held various positions including general manager, assistant vice president and vice president in the Finance Divisions. Mr. Horng currently serves as an independent director of President Securities Corporation, listed on TWSE, since June 2018. Mr. Horng holds a B.A. degree in economics from Soochow University.

Hsiung-Ku Chen is our director. He has a B.S. degree in Physics from Fu-Jen University, an M.A. degree in Physics from Temple University and a Ph.D. degree in Applied Physics from Oregon Graduate Center. Dr. Chen specializes in areas including Thin Film Transistor Technology, Liquid Crystal Display Technology, IC Process Technology and Patent Laws and Regulations, etc. He has dedicated himself to the researching and performing practice of the TFT-LCD industry. From 1980 to 2002, Dr. Chen held various positions including manager, director and special assistant of the director's office in the Electronics Research & Service Organization of the Industrial Technology Research Institute for over 20 years and was the leader of many research projects during his tenure. Additionally, Dr. Chen was elected as Society of Information Display, Taipei Chapter Director and Treasurer from 1992 to 1997 and as Taiwan TFT LCD Association Secretary General from 2000 to 2002. Furthermore, Dr. Chen contributed his professional knowledge to serve as a supervisor of Himax Technologies Limited from April 2003 to December 2003 and as a director from December 2003 to October 2005. Dr. Chen was also the Special Assistant of the CEO Office at Etron Technology, Inc. from 2005 to 2007. Dr. Chen had served as consultants in various organizations, including Color Imaging Industry Promotion Office and the Intellectual Property Innovation Corporation. Currently, Dr. Chen serves as consultant of Color Display Industry Promotion Office.

Other Executive Officers

Jessica Pan is our chief financial officer. Jessica joined Himax in 2006 with over 22 years of experience in finance and accounting. Jessica has played an integral role at Himax on finance, accounting, financial planning and analysis, forecasting and tax, having served as interim Chief Financial Officer from October 2010 to January 2012. Prior to joining Himax, Jessica worked as Assistant Finance Manager for Advanced Semiconductor Engineering, Inc. from 2002 to 2006 and as Auditor at Arthur Andersen LLP in Taiwan from 1998 to 2001. She holds a B.S. degree in Agriculture Chemistry from National Taiwan University and an M.B.A. degree from the State University of New York at Buffalo.

Norman Hung is our executive vice president in charge of Sales and Marketing and also serves as a supervisor of Himax Analogic and Himax Media Solutions. From 2000 to 2006, Mr. Hung served as president of ZyDAS Technology Corp., a fabless integrated circuit design house. From 1999 to 2000, he served as vice president of Sales and Marketing for HiMARK Technology Inc., another fabless integrated circuit design house. Prior to that, from 1996 to 1998, Mr. Hung served as Director of Sales and Marketing for Integrated Silicon Solution, Inc. He has also served in various Marketing positions for Hewlett-Packard and Logitech. Mr. Hung holds a B.S. degree in electrical engineering from National Cheng Kung University and an executive M.B.A. degree from National Chiao Tung University.

Eric Li is our chief IR/PR officer and Spokesperson. Joining Himax in 2012, Mr. Eric Li has an extensive experience in image processing related IC design, having worked in the areas of sales, marketing, R&D and served as Associate Vice President at Himax covering the Intelligent Sensing AI product line. Mr. Li has previously worked in video processing ASIC service and TV/monitor ASSP products before he was put in charge of the fab construction and operation of Himax's WLO advanced optics operation. Prior to Himax, Mr. Eric Li served in executive positions of Cadence Design Systems, Socle Technology, Macronix International and Powerchip Semiconductor. He holds a B.S. degree in Nuclear Engineering from National Tsing Hua University and an M.S. degree in Computer and Information Science from New Jersey Institute of Technology.

6.B. Compensation

For the year ended December 31, 2020, the aggregate cash compensation that we paid to our executive officers was approximately $0.9 million. The aggregate share-based compensation that we paid to our executive officers was approximately $0.04 million. In 2020 our Chairman of the Board and Chief Executive Officer voluntarily reduced the number of RSUs to be granted proposed by the compensation committee to $1 and then compensate other employees. The goal is to provide competitive compensation to our employees. No executive officer is entitled to any severance benefits upon termination of his or her employment with us.

For the year ended December 31, 2020, the aggregate cash compensation that we paid to our independent directors was approximately $135,000. The aggregate share-based compensation that we paid to our independent directors was nil.

The following table summarizes the RSUs and cash award that we granted in 2020 to our directors and executive officers under our 2011 long-term incentive plan. Each unit of RSU represents two ordinary shares. See "Item 6.D. Directors, Senior Management and Employees—Employees—Share-Based Compensation Plans" for more details regarding our RSU grants.

Name	Total RSUs Granted	Total Cash Award Granted (in thousands)	Ordinary Shares Underlying Vested Portion of RSUs	Ordinary Shares Underlying Unvested Portion of RSUs	Unvested Portion of cash award (in thousands)
Dr. Biing-Seng Wu	-	-	-	-	-
Jordan Wu	-	-	-	-	-
Dr. Yan-Kuin Su	-	-	-	-	-
Yuan-Chuan Horng	-	-	-	-	-
Hsiung-Ku Chen	-	-	-	-	-
Jackie Chang[(1)]	-	-	-	-	-
Jessica Pan[(2)]	5,370	-	6,976	3,764	-
Norman Hung	4,690	-	6,976	2,404	-
Eric Li[(3)]	4,457	3	6,976	-	3

(1) Jackie Chang resigned as our Chief Financial Officer, with effect from July 13, 2020.
(2) Jessica Pan was appointed as our Chief Financial Officer, with effect from July 13, 2020.
(3) Eric Li was appointed as our Chief IR/PR Officer and Spokesperson, with effect from July 13, 2020.

The following table summarizes the stock option that we granted in 2019 to our directors and executive officers under our 2011 long-term incentive plan. Each unit of option represents two ordinary shares. See "Item 6.D. Directors, Senior Management and Employees—Employees—Share-Based Compensation Plans" for more details regarding stock option grants.

Name	Total Stock Options Granted	Ordinary Shares Underlying Unvested Portion of Stock Options	Exercise Price (US$)	Exercise Period	
				From	To
Dr. Biing-Seng Wu	-	-	-	-	-
Jordan Wu	14,341	28,682	2.27	April 1, 2020	March 31, 2021
	14,341	28,682	2.27	October 1, 2020	September 30, 2021
Dr. Yan-Kuin Su	-	-	-	-	-
Yuan-Chuan Horng	-	-	-	-	-
Hsiung-Ku Chen	-	-	-	-	-
Jackie Chang[(1)]	6,000	12,000	2.27	April 1, 2020	March 31, 2021
	6,000	12,000	2.27	October 1, 2020	September 30, 2021
Jessica Pan[(2)]	3,250	6,500	2.27	April 1, 2020	March 31, 2021
	3,250	6,500	2.27	October 1, 2020	September 30, 2021
Norman Hung	7,000	14,000	2.27	April 1, 2020	March 31, 2021

Name	Total Stock Options Granted	Ordinary Shares Underlying Unvested Portion of Stock Options	Exercise Price (US$)	Exercise Period	
				From	To
Eric Li[3]	7,000	14,000	2.27	October 1, 2020	September 30, 2021
	3,750	7,500	2.27	April 1, 2020	March 31, 2021
	3,750	7,500	2.27	October 1, 2020	September 30, 2021

(1) Jackie Chang resigned as our Chief Financial Officer, with effect from July 13, 2020.
(2) Jessica Pan was appointed as our Chief Financial Officer, with effect from July 13, 2020.
(3) Eric Li was appointed as our Chief IR/PR Officer and Spokesperson, with effect from July 13, 2020.

6.C. Board Practices

General

Our board of directors consists of five directors, three of whom are independent directors within the meaning of Rule 5605(a)(2) of the Nasdaq Rules. We intend to comply with Rule 5605(b)(1) of the Nasdaq Rules that require boards of U.S. companies to have a board of directors which is comprised of a majority of independent directors. We intend to follow home country practice that permits our independent directors not to hold regularly scheduled meetings at which only independent directors are present in lieu of complying with Rule 5605(b)(2). None of our non-executive directors has a service contract with us that provides for benefits upon termination of service.

Committees of the Board of Directors

To enhance our corporate governance, we have established three committees under the board of directors: the audit committee, the compensation committee and the nominating and corporate governance committee. We have adopted a charter for each of the three committees. Each committee's members and functions are described below.

Audit Committee. Our audit committee currently consists of Yuan-Chuan Horng, Hsiung-Ku Chen and Dr. Yan-Kuin Su. Our board of directors has determined that all of our audit committee members are "independent directors" within the meaning of Rule 5605(a)(2) of the Nasdaq Rules and meet the criteria for independence set forth in Section 10A(m)(3)(B)(i) of the Exchange Act. Our audit committee will oversee our accounting and financial reporting processes and the audits of our financial statements. The audit committee will be responsible for, among other things:

- selecting the independent auditors and pre-approving all auditing and non-auditing services permitted to be performed by the independent auditors;
- reviewing with the independent auditors any audit problems or difficulties and management's response;
- reviewing and approving all proposed related party transactions, as defined in Item 404 of Regulation SK under the Securities Act;
- discussing the annual audited financial statements with management and the independent auditors;
- reviewing major issues as to the adequacy of our internal controls and any special audit steps adopted in light of material internal control deficiencies;
- annually reviewing and reassessing the adequacy of our audit committee charter;
- meeting separately and periodically with management and the independent auditors;
- reporting regularly to the board of directors; and
- such other matters that are specifically delegated to our audit committee by our board of directors from time to time.

Compensation Committee. Our current compensation committee consists of Yuan-Chuan Horng, Hsiung-Ku Chen and Dr. Yan-Kuin Su. Our compensation committee assists our board of directors in reviewing and approving the compensation structure, including all forms of compensation, relating to our directors and executive officers. Our chief executive officer may not be present at any committee meeting where his or her compensation is deliberated. We intend to follow Rule 5605(d)(1)(B) and (2)(B) of the Nasdaq Rules which requires the compensation committees of U.S. companies to be comprised solely of independent directors. The compensation committee will be responsible for, among other things:

- reviewing and making recommendations to our board of directors regarding our compensation policies and forms of compensation provided to our directors and officers;
- reviewing and determining bonuses for our officers and other employees;
- reviewing and determining share-based compensation for our directors, officers, employees and consultants;
- administering our equity incentive plans in accordance with the terms thereof; and
- such other matters that are specifically delegated to the compensation committee by our board of directors from time to time.

Nominating and Corporate Governance Committee. Our nominating and corporate governance committee assists the board of directors in identifying individuals qualified to be members of our board of directors and in determining the composition of the board and its committees. Our current nominating and corporate governance committee consists of Yuan-Chuan Horng, Hsiung-Ku Chen, and Dr. Yan-Kuin Su. We intend to follow Rule 5605(e)(1)(B) of the Nasdaq Rules which requires that nominations committees of U.S. companies be comprised solely of independent directors. Our nominating and corporate governance committee will be responsible for, among other things:

- identifying and recommending to our board of directors nominees for election or re-election, or for appointment to fill any vacancy;
- reviewing annually with our board of directors the current composition of our board of directors in light of the characteristics of independence, age, skills, experience and availability of service to us;
- reviewing the continued board membership of a director upon a significant change in such director's principal occupation;
- identifying and recommending to our board of directors the names of directors to serve as members of the audit committee and the compensation committee, as well as the nominating and corporate governance committee itself;
- advising the board periodically with respect to significant developments in the law and practice of corporate governance as well as our compliance with applicable laws and regulations, and making recommendations to our board of directors on all matters of corporate governance and on any corrective action to be taken; and
- monitoring compliance with our code of business conduct and ethics, including reviewing the adequacy and effectiveness of our procedures to ensure proper compliance.

Terms of Directors and Officers

Under Cayman Islands law and our articles of association, each of our directors holds office until a successor has been duly elected or appointed, except where any director was appointed by the board of directors to fill a vacancy on the board of directors or as an addition to the existing board, such director shall hold office until the next annual general meeting of shareholders at which time such director is eligible for re-election. Our directors are subject to periodic retirement and re-election by shareholders in accordance with our articles of association, resulting in their retirement and re-election at staggered intervals. At each annual general meeting, one-third of our directors are subject to retirement by rotation, or if their number is not a multiple of three, the number nearest to one-third but not exceeding one-third shall retire from office. Any retiring director is eligible for re-election. The chairman of our board of directors and/or the managing director will not be subject to retirement by rotation or be taken into account in determining the number of directors to retire in each year. Under our articles of association,

which director will retire at each annual general meeting will be determined as follows: (i) any director who wishes to retire and not offer himself for re-election, (ii) if no director wishes to retire, the director who has been longest in office since his last re-election or appointment, and (iii) if two or more directors have served on the board the longest, then as agreed among the directors themselves or as determined by lot.

6.D. Employees

As of December 31, 2018, 2019 and 2020, we had 2,160, 1,975 and 2,056 employees, respectively. The following is a breakdown of our employees by function as of December 31, 2020:

Function	Number
Research and development[(1)]	1,289
Engineering and manufacturing[(2)]	334
Sales and marketing[(3)]	294
General and administrative	139
Total	2,056

Note: (1) Includes semiconductor design engineers, application engineers, assembly and testing engineers and quality control engineers.
(2) Includes manufacturing personnel of Himax Taiwan, Himax Display, Himax IGI and CMVT, our subsidiaries focused on design and manufacturing of WLO and LCOS products.
(3) Includes field application engineers.

Share-Based Compensation Plans

Himax Technologies, Inc. 2005 and 2011 Long-Term Incentive Plan

We adopted two long-term incentive plans in October 2005 and September 2011, however, the 2005 plan was terminated in October 2010. The following description of the plan is intended to be a summary and does not describe all provisions of the plan.

Purpose of the Plan. The purpose of the plan is to advance our interests and those of our shareholders by:

- providing the opportunity for our employees, directors and service providers to develop a sense of proprietorship and personal involvement in our development and financial success and to devote their best efforts to our business; and

- providing us with a means through which we may attract able individuals to become our employees or to serve as our directors or service providers and providing us a means whereby those individuals, upon whom the responsibilities of our successful administration and management are of importance, can acquire and maintain share ownership, thereby strengthening their concern for our welfare.

Type of Awards. The plan provides for the grant of stock options and restricted share units.

Duration. Generally, the plan will terminate five years from the effective date of the plan. But, the amended and restated 2011 Plan was 2nd amended and restated by extending its duration for three (3) years to September 6, 2022, which was approved by our shareholders at the annual general meeting held on August 28, 2019. After the plan is terminated, no awards may be granted, but any award previously granted will remain outstanding in accordance with the plan.

Administration. The plan is administered by the compensation committee of our board of directors or any other committee designated by our board to administer the plan. Committee members will be appointed from time to time by, and will serve at the discretion of, our board. The committee has full power and authority to interpret the terms and intent of the plan or any agreement or document in connection with the plan, determine eligibility for awards and adopt such rules, regulations, forms, instruments and guidelines for administering the plan. The committee may delegate its duties or powers.

Number of Authorized Shares. We have authorized a maximum issuance of 36,153,854 shares in the 2005 plan and 20,000,000 shares in the 2011 plan, and the 2005 plan was terminated in October 2010. As of the date of this annual report, there were no stock options or restricted share units outstanding under the plan except as described under "—Stock Options" and "—Restricted Share Units."

Eligibility and Participation. All of our employees, directors and service providers are eligible to participate in the plan. The committee may select from all eligible individuals those individuals to whom awards will be granted and will determine the nature of any and all terms permissible by law and the amount of each award.

Stock Options. The committee may grant options to participants in such number, upon such terms and at any time as it determines. Each option grant will be evidenced by an award document that will specify the exercise price, the maximum duration of the option, the number of shares to which the option pertains, conditions upon which the option will become vested and exercisable and such other provisions which are not inconsistent with the plan.

The exercise price for each option will be:

- based on 100% of the fair market value of the shares on the date of grant;
- set at a premium to the fair market value of the shares on the date of grant; or
- indexed to the fair market value of the shares on the date of grant, with the committee determining the index.

The exercise price on the date of grant must be at least equal to 100% of the fair market value of the shares on the date of grant.

Each option will expire at such time as the committee determines at the time of its grant; however, no option will be exercisable later than the 10th anniversary of its grant date. Notwithstanding the foregoing, for options granted to participants outside the United States, the committee can set options that have terms greater than ten years.

Options will be exercisable at such times and be subject to such terms and conditions as the committee approves. A condition of the delivery of shares as to which an option will be exercised will be the payment of the exercise price. Subject to any governing rules or regulations, as soon as practicable after receipt of written notification of exercise and full payment, we will deliver to the participant evidence of book-entry shares or, upon his or her request, share certificates in an appropriate amount based on the number of shares purchased under the option(s). The committee may impose such restrictions on any shares acquired pursuant to the exercise of an option as it may deem advisable.

Each participant's award document will set forth the extent to which he or she will have the right to exercise the options following termination of his or her employment or services.

We made grants of 2,226,690 units employee stock options to our certain employees on September 30, 2019 with exercise price $2.27 per option. The vesting schedule is, 50% of the options vest half year after the date of grant and 50% of the options vest one year after the date of grant. During 2020, 114,500 units, 39,000 units and 10,000 units of stock option to purchase 114,500 units, 39,000 units and 10,000 units ADS were grant to certain employees at an exercise price of $2.74, $3.9 and $3.35 on March 31, 2020, August 11, 2020 and September 25, 2020, respectively. The options granted in 2020 were fully vested on October 1, 2020.

Restricted Share Units. The committee may grant restricted share units to participants. Each grant will be evidenced by an award document that will specify the period(s) of restriction, the number of restricted share units granted and such other provisions as the committee determines.

Generally, restricted share units will become freely transferable after all conditions and restrictions applicable to such shares have been satisfied or lapse and restricted share units will be paid in cash, shares or a combination of the two, as determined by the committee.

The committee may impose such other conditions or restrictions on any restricted share units as it may deem advisable, including a requirement that participants pay a stipulated purchase price for each restricted share unit, restrictions based upon the achievement of specific performance goals and time-based restrictions on vesting.

A participant will have no voting rights with respect to any restricted share units.

Each award document will set forth the extent to which the participant will have the right to retain restricted share units following termination of his or her employment or services.

We made grants of 597,596 RSUs to our employees on September 25, 2015. The vesting schedule for such RSU grants is as follows: 94.15% of the RSU grants vested immediately and were settled by cash in the amount of $4.5 million on the grant date, with the remainder vesting equally on each of September 30, 2016, 2017 and 2018, which will be settled by our ordinary shares, subject to certain forfeiture events.

We made grants of 1,208,785 RSUs to our employees on September 28, 2016. The vesting schedule for such RSU grants is as follows: 91.93% of the RSU grants vested immediately and were settled by cash in the amount of $9.2 million on the grant date, with the remainder vesting equally on each of September 30, 2017, 2018 and 2019, which will be settled by our ordinary shares, subject to certain forfeiture events.

We made grants of 580,235 RSUs to our employees on September 29, 2017. The vesting schedule for such RSU grants is as follows: 96.91% of the RSU grants vested immediately and were settled by cash in the amount of $6.1 million on the grant date, with the remainder vesting equally on each of September 30, 2018, 2019 and 2020, which will be settled by our ordinary shares, subject to certain forfeiture events.

We made grants of 676,273 RSUs to our employees on September 26, 2018. The vesting schedule for such RSU grants is as follows: 97.15% of the RSU grants vested immediately and were settled by cash in the amount of $3.8 million on the grant date, with the remainder vesting equally on each of September 30, 2019, 2020 and 2021, which will be settled by our ordinary shares, subject to certain forfeiture events.

We made grants of 1,402,714 RSUs to our employees on September 28, 2020. The vesting schedule for such RSU grants is as follows: 98.68% of the RSU grants vested immediately and were settled by cash in the amount of $4.8 million on the grant date, with the remainder vesting equally on each of September 30, 2021, 2022 and 2023, which will be settled by our ordinary shares, subject to certain forfeiture events.

Dividend Equivalents. Any participant selected by the committee may be granted dividend equivalents based on the dividends declared on shares that are subject to any award, to be credited as of dividend payment dates, during the period between the date the award is granted and the date the award is exercised, vests or expires, as determined by the committee, provided that unvested RSUs are currently not entitled to dividend equivalents. Dividend equivalents will be converted to cash or additional shares by such formula and at such time and subject to such limitations as determined by the committee.

Transferability of Awards. Generally, awards cannot be sold, transferred, pledged, assigned, or otherwise alienated or hypothecated, other than by will or by the laws of descent and distribution.

Adjustments in Authorized Shares. In the event of any of the corporate events or transactions described in the plan, to avoid any unintended enlargement or dilution of benefits, the committee has the sole discretion to substitute or adjust the number and kind of shares that can be issued or otherwise delivered.

Forfeiture Events. The committee may specify in an award document that the participant's rights, payments and benefits with respect to an award will be subject to reduction, cancellation, forfeiture or recoupment upon the occurrence of certain specified events, in addition to any otherwise applicable vesting or performance conditions of an award.

If we are required to prepare an accounting restatement owing to our material noncompliance, as a result of misconduct, with any financial reporting requirement under the securities laws, then if the participant is one of the individuals subject to automatic forfeiture under Section 304 of the Sarbanes-Oxley Act of 2002, the participant will reimburse us the amount of any payment in settlement of an award earned or accrued during the twelve-month period following the first public issuance or filing with the SEC (whichever first occurred) of the financial document embodying such financial reporting requirement.

Amendment and Termination. Subject to, and except as, provided in the plan, the committee has the sole discretion to alter, amend, modify, suspend, or terminate the plan and any award document in whole or in part. Amendments to the plan are subject to shareholder approval, to the extent required by law, or by stock exchange rules or regulations.

6.E. Share Ownership

The following table sets forth the beneficial ownership of our ordinary shares, as of February 28, 2021, by each of our directors and executive officers. Beneficial ownership is determined in accordance with the rules and regulations of the SEC. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, we have included shares that the person has the right to acquire within 60 days, including through the exercise of option. These shares, however, are not included in the computation of the percentage ownership of any other person.

Name	Number of Shares Owned	Percentage of Shares Owned
Dr. Biing-Seng Wu	74,579,944	21.4%
Jordan Wu[(1)]	7,456,441	2.1%
Dr. Yan-Kuin Su	-	-
Yuan-Chuan Horng	916,104	*
Hsiung-Ku Chen	-	-
Jessica Pan[(2)]	81,112	*
Norman Hung[(3)]	560,230	*
Eric Li	15,000	*

Note: (1) The number of ordinary shares beneficially owned represents (i) 7,399,077 ordinary shares, among which, Jordan Wu directly owns 353,683 ordinary shares and beneficially owns 6,600,212 ordinary shares and 445,182 ordinary shares through Arch Finance Ltd. and Shu Chuan Investment Co., Ltd, respectively, both of which are investment companies controlled by Jordan Wu; and (ii) 57,364 ordinary shares underlying the stock options we granted to Jordan Wu in 2019 under our 2011 long-term incentive plan, which will be exercisable within 60 days after February 28, 2021.

(2) The numbers of shares beneficially owned represents (i) 68,112 ordinary shares held by Jessica Pan; and (ii) 13,000 ordinary shares underlying the stock options we granted to Jessica Pan in 2019 under our 2011 long-term incentive plan, which will be exercisable within 60 days after February 28, 2021.

(3) The numbers of shares beneficially owned represents (i) 532,230 ordinary shares held by Norman Hung; and (ii) 28,000 ordinary shares underlying the stock options we granted to Norman Hung in 2019 under our 2011 long-term incentive plan, which will be exercisable within 60 days after February 28, 2021.

* The sum of the number of ordinary shares held and the number of ordinary shares issuable upon exercise of all options held is less than 1.0% of our total outstanding shares.

None of our directors or executive officers has voting rights different from those of other shareholders.

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

7.A. Major Shareholders

On August 10, 2009, we effected certain changes in our capital stock structure in order to meet the Taiwan Stock Exchange's primary listing requirement that the par value of shares be NT$10 or $0.3 per share and in order to increase the number of outstanding ordinary shares to be listed on the Taiwan Stock Exchange. In particular, we increased our authorized share capital from $50,000 (divided into 500,000,000 shares of par value $0.0001 each) to $300,000,000 (divided into 3,000,000,000,000 shares of par value $0.0001 each) and distributed 5,999 bonus shares for each share of par value $0.0001 held by shareholders of record as of August 7, 2009. These were followed by a consolidation of every 3,000 shares of par value $0.0001 each into one ordinary share of par value $0.3 each. As a result, the number of ordinary shares outstanding was doubled and each of our ordinary shares had a par value of $0.3.

In connection with the above changes, we also changed our ADS ratio effective August 10, 2009 from one ADS representing one ordinary share to one ADS representing two ordinary shares. Such change in ADS ratio was intended to adjust for the net dilutive effect due to the bonus shares distribution and the shares consolidation so that each ADS would represent the same percentage ownership in our share capital immediately before and after the above changes. The number of ADSs also remained the same immediately before and after the above changes.

As of February 28, 2021, 348,178,330 of our shares were outstanding. We believe that, of such shares, 213,212,842 shares in the form of ADSs were registered in the name of a nominee of JPMorgan Chase Bank, N.A., the depositary under our ADS deposit agreement. JPMorgan Chase Bank, N.A., advised us that, as of February 28, 2021, 106,606,421 ADSs, representing 213,212,842 common shares, were held of record by Cede & Co. and 6 other registered shareholders domiciled in and outside of the United States. We have no further information as to common shares held, or beneficially owned, by U.S. persons.

The following table sets forth information known to us with respect to the beneficial ownership of our shares as of February 28, 2021, the most recent practicable date, by (i) each shareholder known by us to beneficially own more than 5% of our shares and (ii) all directors and executive officers as a group.

Name of Beneficial Owner	Number of Shares Beneficially Owned[4]	Percentage of Shares Beneficially Owned[4]
Dr. Biing-Seng Wu[1]	74,579,944	21.4%
Whei-Lan Teng[2]	21,135,720	6.1%
All directors and executive officers as a group[3]	83,608,831	24.0%

Note: (1) Dr. Biing-Seng Wu directly owns 315,322 ordinary shares. Dr. Biing-Seng Wu beneficially owns 51,009,690 ordinary shares and 20,039,838 ordinary shares through Sanfair Asia Investments Ltd. and Chi-Duan Investment Co., Ltd., respectively, both of which are investment companies controlled by Dr. Biing-Seng Wu. Additionally, Dr. Biing-Seng Wu beneficially owns 1,607,547 ADSs purchased through Sanfair Asia Investments Ltd. in the open market according to his share purchase plan announced on November 30, 2018. Accordingly, Dr. Biing-Seng Wu may be deemed to beneficially own an aggregate of 74,579,944 ordinary shares, representing approximately 21.4% of the outstanding ordinary shares.

(2) Whei-Lan Teng directly owns 1,335,548 ordinary shares. Whei-Lan Teng beneficially owns 2,643,782 ordinary shares through Renmar Finance Limited, which is an investment company controlled by Whei-Lan Teng. In addition, Whei-Lan Teng, may be attributed beneficial ownership of 17,156,390 ordinary shares held in trust by Corenmar Investment Limited for the benefit of her children. Whei-Lan Teng therefore may be deemed to have shared power to vote or dispose of 21,135,720 ordinary shares. Accordingly, Whei-Lan Teng may be deemed to beneficially own an aggregate of 21,135,720 ordinary shares, representing approximately 6.1% of the outstanding ordinary shares.

(3) Numbers of shares beneficially owned by all directors and executive officers as a group already include an aggregate of 74,579,944 ordinary shares beneficially owned by Dr. Biing-Seng Wu. The shares beneficially owned by a group also take into account 98,364 ordinary shares underlying the stock options held by such a group that are exercisable within 60 days after February 28, 2021.

(4) For each person and group included in this column, percentage ownership is calculated by dividing the number of shares beneficially owned by such person or group by the sum of (i) 348,178,330, being the number of ordinary shares outstanding as of February 28, 2021 and (ii) the number of ordinary shares underlying stock options held by such person or group that are exercisable within 60 days after February 28, 2021.

None of our major shareholders has voting rights different from those of other shareholders. We are not aware of any arrangement that may, at a subsequent date, result in a change of control of our company.

7.B. Related Party Transactions

Viewsil Technology Limited (VST)

VST is a subsidiary of our equity method investee, Viewsil Microelectronics (Kunshan) Limited. In 2018, we purchased mask from VST for our research activities for a fee of $1.6 million and the related payable had been paid before December 31, 2019. Additionally, as of December 31, 2019 and 2020, we made an interest free loan of $1.2 million and $1.2 million, respectively, to VST for short-term funding needs. The loan is repayable on demand and the Company expects it will be repaid in full during 2021. We may consider providing further future loans to VST.

Viewsil Microelectronics (Kunshan)Limited (Viewsil)

Viewsil is an equity method investee of the Company. In 2018, 2019 and 2020, Viewsil provided technical service on a new source driver chip and integrated circuit module for the Company's research activities for a fee of $2.2 million, $1.8 million and $1.4 million, respectively, which was charged to research and development expense. As of December 31, 2019 and 2020, the related payables were $2.2 million and $2.5 million, respectively.

Cheng Mei Materials Technology Corporation (CMMT)

CMMT is an equity method investor of CMVT, which became as a subsidiary of the Company from October 30, 2020. From acquisition date of CMVT to December 31, 2020, the purchase of raw materials from CMMT was $0.7 million. As of December 31, 2020, the related payable resulting from the purchase of raw materials were $1.5 million.

7.C. Interests of Experts and Counsel

Not applicable.

ITEM 8. FINANCIAL INFORMATION

8.A. Consolidated Statements and Other Financial Information

8.A.1. See "Item 18. Financial Statements" for our audited consolidated financial statements.

8.A.2. See "Item 18. Financial Statements" for our audited consolidated financial statements, which cover the last three financial years.

8.A.3. See page F-2 for the report of our independent registered public accounting firm.

8.A.4. Not applicable.

8.A.5. Not applicable.

8.A.6. See Note 29 to our audited consolidated financial statements included in "Item 18. Financial Statements."

8.A.7 Litigation

We may be subject to legal proceedings, investigations and claims relating to the conduct of our business from time to time. We may also initiate legal proceedings in order to protect our contractual and property rights. However, as of the date of this annual report, we are not currently a party to, nor are we aware of, any legal proceeding, investigation or claim which, in the opinion of our management, is likely to have a material adverse effect on our business, financial condition or results of operations.

8.A.8. Dividends and Dividend Policy

Subject to the Cayman Islands Companies Law, we may declare dividends in any currency, but no dividend may be declared in excess of the amount recommended by our board of directors. Whether our board of directors recommends any dividends and the form, frequency and amount of dividends, if any, will depend upon our future operations and earnings, capital requirements and surplus, general financial condition, contractual restrictions and other factors as the board of directors may deem relevant.

On June 27, 2008, we paid a cash dividend in the amount of $66.8 million, or the equivalent of $0.350 per ADS. In 2009, we paid a cash dividend on June 29, 2009 in the amount of $55.5 million, or the equivalent of $0.300 per ADS, and distributed a stock dividend on August 10, 2009 of 5,999 ordinary shares of par value $0.0001 for each ordinary share of par value $0.0001 held by shareholders of record as of August 7, 2009. On August 13, 2010, we paid a cash dividend in the amount of $44.1 million, or the equivalent of $0.250 per ADS. On July 20, 2011, we paid a cash dividend in the amount of $21.2 million, or the equivalent of $0.120 per ADS. On July 25, 2012, we paid a cash dividend in the amount of $10.7 million, or the equivalent of $0.063 per ADS. On July 31, 2013, we paid a cash dividend in the amount of $42.4 million, or the equivalent of $0.250 per ADS. On July 23, 2014, we paid a cash dividend in the amount of $46.0 million, or the equivalent of $0.270 per ADS. On July 8, 2015, we paid a cash dividend in the amount of $51.4 million, or the equivalent of $0.300 per ADS. On August 3, 2016, we paid a cash dividend in the amount of $22.3 million, or the equivalent of $0.130 per ADS. On August 14, 2017, we paid a cash

dividend in the amount of $41.3 million, or the equivalent of $0.240 per ADS. On July 31, 2018, we paid a cash dividend in the amount of $17.2 million, or the equivalent of $0.10 per ADS. For more information on the stock dividend distribution, see "Item 7.A. Major Shareholders and Related Party Transactions—Major Shareholders." The dividends for any of these years should not be considered representative of the dividends that would be paid in any future periods or of our dividend policy.

Our ability to pay cash or stock dividends will depend, at least partially, upon the amount of funds received by us from our direct and indirect subsidiaries, which must comply with the laws and regulations of their respective countries and respective articles of association. We receive cash from Himax Taiwan through intercompany borrowings. Himax Taiwan has not paid us cash dividends in the past. In accordance with amended ROC Company Act and regulations and Himax Taiwan's amended articles of incorporation, Himax Taiwan is permitted to distribute dividends after allowances have been made for:

- payment of taxes;
- recovery of prior years' deficits, if any;
- legal reserve (in an amount equal to 10% of annual profits after having deducted the above items until such time as its legal reserve equals the amount of its total paid-in capital);
- special reserve based on relevant laws or regulations, or retained earnings, if necessary; and
- dividends for preferred shares, if any.

Furthermore, if Himax Taiwan does not generate any profits for any year as determined in accordance with generally accepted accounting principles in Taiwan, it generally may not distribute dividends for that year.

Any dividend we declare will be paid to the holders of ADSs, subject to the terms of the deposit agreement, to the same extent as holders of our ordinary shares, to the extent permitted by applicable laws and regulations, less the fees and expenses payable under the deposit agreement. Any dividend we declare will be distributed by the depositary bank to the holders of our ADSs. Cash dividends on our ordinary shares, if any, will be paid in U.S. dollars.

8.B. Significant Changes

Except as disclosed elsewhere in this annual report, we have not experienced any significant changes since the date of the annual financial statements.

ITEM 9. THE OFFER AND LISTING

9.A. Offer and Listing Details

Our ADSs have been quoted on the NASDAQ Global Select Market under the symbol "HIMX" since March 31, 2006.

9.B. Plan of Distribution

Not applicable.

9.C. Markets

The principal trading market for our shares is the NASDAQ Global Select Market, on which our shares are traded in the form of ADSs.

9.D. Selling Shareholders

Not applicable.

9.E. Dilution

Not applicable.

9.F. Expenses of the Issue

Not applicable.

ITEM 10. ADDITIONAL INFORMATION

10.A. Share Capital

Not applicable.

10.B. Memorandum and Articles of Association

Our shareholders previously adopted the Amended and Restated Memorandum of Association on September 26, 2005 by a special resolution passed by the sole shareholder of our company and the Amended and Restated Articles of Association at an extraordinary shareholder meeting held on October 25, 2005, both of which were filed as an exhibit to our registration statement on Form F-1 (file no. 333-132372) with the SEC on March 13, 2006.

At our annual general meeting on August 6, 2009, our shareholders adopted the Second Amended and Restated Memorandum and Articles of Association, which became effective on August 10, 2009 and were filed as exhibits to our current report on Form 6-K with the SEC on July 13, 2009. These were adopted primarily in connection with our proposed Taiwan listing to meet the Taiwan Stock Exchange's primary listing requirement concerning protection of material shareholders' rights under the ROC's Company Act and Securities Exchange Act. At the same time, our shareholders also adopted the Third Amended and Restated Memorandum and Articles of Association, which were filed as an exhibit to our annual report on Form 20-F for the fiscal year ended December 31, 2009 with the SEC on June 3, 2010 and are substantially the same as the Amended and Restated Memorandum and Articles of Association of our company except that our authorized share capital is stated to be $300,000,000 divided into 1,000,000,000 shares of nominal or par value of $0.3 each, on the condition that it shall become effective if the application made by our company to list its ordinary shares on the Taiwan Stock Exchange is rejected or aborted. On May 20, 2010, the Third Amended and Restated Memorandum and Articles of Association became effective as a result of the termination of our primary listing application to the Taiwan Stock Exchange.

We incorporate by reference into this annual report the description of our Amended and Restated Memorandum and Articles of Association (except for provisions relating to our authorized share capital) contained in our F-1 registration statement (File No. 333-132372) filed with the SEC on March 13, 2006. Such description sets forth a summary of certain provisions of our memorandum and articles of association as currently in effect, which is qualified in its entirety by reference to the full text of the Third Amended and Restated Memorandum and Articles of Association. As of the date of this annual report, our authorized share capital is $300,000,000 divided into 1,000,000,000 shares of nominal or par value of $0.3 each.

10.C. Material Contracts

We are not currently, and have not been in the last two years, party to any material contract, other than contracts entered into the ordinary course of business.

10.D. Exchange Controls

We have extracted from publicly available documents the information presented in this section. The information below may be applicable because our wholly owned operating subsidiary, Himax Taiwan, is incorporated in the ROC. Please note that citizens of the PRC and entities organized in the PRC are subject to special ROC laws, rules and regulations, which are not discussed in this section.

The ROC's Foreign Exchange Control Statute and regulations provide that all foreign exchange transactions must be executed by banks designated to handle foreign exchange transactions by the Central Bank of the ROC. There is an annual limit on the amount of currency a Taiwanese entity may convert into, or out of, NT dollars other than for trade purposes. Current regulations favor trade-related foreign exchange transactions.

With regard to inward and outward remittances (foreign exchange purchased or sold), approval by the Central Bank of the ROC is generally required for any conversion exceeding, in aggregate in each calendar year, $50 million (or its equivalent) for companies and $5 million (or its equivalent) for Taiwanese and resident foreign individuals. A

requirement is also imposed on all private enterprises to report all medium- and long-term foreign debt with the Central Bank of the ROC.

In addition, a foreign person without an alien resident card or an unrecognized foreign entity may remit to and from Taiwan foreign currencies of up to $100,000 per remittance if required documentation is provided to the ROC authorities. This limit applies only to remittances involving a conversion between NT dollars and U.S. dollars or other foreign currencies.

10.E. Taxation

Cayman Islands Taxation

The Cayman Islands currently levies no taxes on individuals or corporations based upon profits, income, gains or appreciation, and there is no taxation in the nature of inheritance tax or estate duty. There are no other taxes likely to be material to us levied by the Government of the Cayman Islands except for stamp duties which may be applicable on instruments executed in, or brought within the jurisdiction of, the Cayman Islands. The Cayman Islands is not party to any double tax treaties. There are no exchange control regulations or currency restrictions in the Cayman Islands.

We have, pursuant to Section 6 of the Tax Concessions Law (1999 Revision) of the Cayman Islands, obtained an undertaking from the Governor-in-Council that:

(a) no law which is enacted in the Cayman Islands imposing any tax to be levied on profits, income or gains or appreciations shall apply to us or our operations;

(b) the aforesaid tax or any tax in the nature of estate duty or inheritance tax shall not be payable on our ordinary shares, debentures or other obligations.

The undertaking that we have obtained is for a period of 20 years from May 3, 2005.

United States Federal Income Taxation

The following is a description of material U.S. federal income tax consequences to the U.S. Holders described below of owning and disposing of ordinary shares or ADSs, but it does not purport to be a comprehensive description of all tax considerations that may be relevant to a particular person's decision to hold the securities. This discussion applies only to a U.S. Holder that holds ordinary shares or ADSs as capital assets for U.S. federal income tax purposes. This discussion does not address any aspect of the "Medicare contributions tax" on "net investment income." In addition, it does not describe all of the tax consequences that may be relevant in light of the U.S. Holder's particular circumstances, including alternative minimum tax consequences and tax consequences applicable to U.S. Holders subject to special rules, such as:

- certain financial institutions;
- dealers or traders in securities who use a mark-to-market method of tax accounting;
- persons holding ordinary shares or ADSs as part of a hedging transaction, straddle, wash sale, conversion transaction or integrated transaction or persons entering into a constructive sale with respect to the ordinary shares or ADSs;
- persons whose functional currency for U.S. federal income tax purposes is not the U.S. dollar;
- entities classified as partnerships for U.S. federal income tax purposes;
- tax-exempt entities, including "individual retirement accounts" or "Roth IRAs";
- persons that own or are deemed to own ten percent or more of our voting stock; or
- persons holding ordinary shares or ADSs in connection with a trade or business conducted outside of the United States.

If an entity that is classified as a partnership for U.S. federal income tax purposes owns ordinary shares or ADSs, the U.S. federal income tax treatment of a partner will generally depend on the status of the partner and the activities of the partnership. Partnerships holding ordinary shares or ADSs and partners in such partnerships should consult their tax advisers as to the particular U.S. federal income tax consequences of owning and disposing of the ordinary shares or ADSs.

This discussion is based on the Internal Revenue Code of 1986, as amended, administrative pronouncements, judicial decisions and final, temporary and proposed Treasury regulations, all as of the date hereof. These laws are subject to change, possibly on a retroactive basis. It is also based in part on representations by the depositary and assumes that each obligation under the deposit agreement and any related agreement will be performed in accordance with its terms. You should consult your tax adviser concerning the U.S. federal, state, local and non-U. S. tax consequences of owning and disposing of ordinary shares or ADSs in your particular circumstances.

As used herein, a "U.S. Holder" is a person that is, for U.S. federal tax purposes, a beneficial owner of ordinary shares or ADSs and is: (i) a citizen or resident of the United States; (ii) a corporation, or other entity taxable as a corporation, created or organized in or under the laws of the United States or any political subdivision thereof; or (iii) an estate or trust the income of which is subject to U.S. federal income taxation regardless of its source.

In general, a U.S. Holder of ADSs will be treated for U.S. federal income tax purposes as the owner of the underlying ordinary shares represented by those ADSs. Accordingly, no gain or loss will be recognized if a U.S. Holder exchanges ADSs for the underlying ordinary shares represented by those ADSs.

The U.S. Treasury has expressed concerns that parties to whom American depositary shares are released before delivery of shares to the depositary ("pre-release") may be taking actions that are inconsistent with the claiming of foreign tax credits for U.S. holders of American depositary shares. Such actions would also be inconsistent with the claiming of the preferred rates of tax, described below, applicable to dividends received by certain non-corporate U.S. holders. Accordingly, the availability of the preferential tax rates for dividends received by certain non-corporate U.S. Holders, described below, could be affected by actions taken by parties to whom ADSs are pre-released.

This discussion assumes that we are not, and will not become, a passive foreign investment company (as discussed below).

Taxation of Distributions

Distributions received by U.S. Holders with respect to the ordinary shares or ADSs, other than certain pro rata distributions of ordinary shares, will constitute foreign-source dividend income for U.S. federal income tax purposes to the extent paid out of our current or accumulated earnings and profits, as determined in accordance with U.S. federal income tax principles. We do not to maintain records of earnings and profits in accordance with U.S. federal income tax principles, and therefore it is expected that distributions will generally be reported to U.S. Holders as dividends. Dividends will be included in a U.S. Holder's income on the date of the U.S. Holder's (or in the case of ADSs, the depository's) receipt of the dividends. Subject to applicable limitations and the discussion above regarding concerns expressed by the U.S. Treasury, certain dividends paid by qualified foreign corporations to certain non-corporate holders may be taxable at preferential tax rates applicable to long-term capital gains. A foreign corporation is treated as a qualified foreign corporation with respect to dividends paid on stock that is readily tradable on a securities market in the United States, such as the NASDAQ Global Select Market, where our ADSs are traded. Our ordinary shares are not traded on a securities market in the United States. Non-corporate U.S. Holders of our ordinary shares or ADSs should consult their tax advisers regarding their eligibility for taxation at such preferential rates and whether they are subject to any special rules that limit their ability to be taxed at such preferential rates. Corporate U.S. Holders will not be entitled to claim the dividends-received deduction with respect to dividends paid by us.

Sale and Other Disposition of Ordinary Shares or ADSs

A U.S. Holder will generally recognize U.S.-source capital gain or loss for U.S. federal income tax purposes on the sale or other disposition of ordinary shares or ADSs, which will be long-term capital gain or loss if the ordinary shares or ADSs were held for more than one year. Long-term capital gains of certain non-corporate U.S. Holders may be taxable at preferential rates. The amount of gain or loss will be equal to the difference between the amount realized on the sale or other disposition and the U.S. Holder's tax basis in the ordinary shares or ADSs. The deductibility of capital losses is subject to limitations.

Passive Foreign Investment Company Rules

We believe that we were not a passive foreign investment company (a "PFIC") for U.S. federal income tax purposes for our taxable year ended December 31, 2020.

In general, a non-U.S. company will be a PFIC for U.S. federal income tax purposes for any taxable year in which (i) 75% or more of its gross income consists of passive income (such as dividends, interest, rents and royalties) or (ii) 50% or more of the average quarterly value of its assets consists of assets that produce, or are held for the production of, passive income (including cash). If a corporation owns at least 25% (by value) of the stock of another corporation, the corporation will be treated, for purposes of the PFIC tests, as owning its proportionate share of the 25%-owned subsidiary's assets and receiving its proportionate share of the 25%-owned subsidiary's income. As PFIC status depends upon the composition of our income and assets and the value of our assets from time to time (and the value of our assets may be determined, in part, based on the market price of our shares and ADSs, which may fluctuate considerably from time to time given that market prices of certain technology companies historically have been volatile), there can be no assurance that we will not be a PFIC for any taxable year.

If we were a PFIC for any taxable year during which a U.S. Holder held ordinary shares or ADSs, certain adverse U.S. federal income tax rules would apply on a sale or other disposition (including a pledge) of ordinary shares or ADSs by the U.S. Holder. In general, under those rules, gain recognized by the U.S. Holder on a sale or other disposition of ordinary shares or ADSs would be allocated ratably over the U.S. Holder's holding period for the ordinary shares or ADSs. The amounts allocated to the taxable year of the sale or other disposition and to any year before we became a PFIC would be taxed as ordinary income. The amount allocated to each other taxable year would be subject to tax at the highest rate in effect for individuals or corporations, as appropriate, for that taxable year, and an interest charge would be imposed on the tax attributable to such allocated amounts. Similar rules would apply to any distribution in respect of ordinary shares or ADSs to the extent in excess of 125% of the average of the annual distributions on ordinary shares or ADSs received by the U.S. Holder during the preceding three years or the U.S. Holder's holding period, whichever is shorter. Certain elections may be available that would result in alternative treatments (such as a mark-to-market treatment of the ADSs). U.S. Holders should consult their tax advisers to determine whether any of these elections would be available and, if so, what the consequences of the alternative treatments would be in their particular circumstances.

If we were a PFIC in a taxable year in which we pay a dividend or in the prior taxable year, the preferential tax rates discussed above with respect to dividends received by certain non-corporate U.S. Holders would not apply.

In addition, if U.S. Holder owns ordinary shares or ADSs during any year in which we are a PFIC, the U.S. Holder may be required to file certain information reports, containing such information as the U.S. Treasury may require.

Information Reporting and Backup Withholding

Payments of dividends and sales proceeds that are made within the United States or through certain U.S.-related financial intermediaries generally are subject to information reporting, and may be subject to backup withholding, unless the U.S. Holder is an exempt recipient or, in the case of backup withholding, the U.S. Holder provides a correct taxpayer identification number and certifies that it is not subject to backup withholding. The amount of any backup withholding from a payment to a U.S. Holder will be allowed as a credit against the U.S. Holder's U.S. federal income tax liability and may entitle the U.S. Holder to a refund, provided that the required information is timely furnished to the Internal Revenue Service.

10.F. Dividends and Paying Agents

Not applicable.

10.G. Statement by Experts

Not applicable.

10.H. Documents on Display

It is possible to read and copy documents referred to in this annual report that have been filed with the SEC at the SEC's public reference rooms in Washington, D.C., New York and Chicago, Illinois. Please call the SEC at 1-800-SEC-0330 for further information on the reference rooms.

10.I. Subsidiary Information

Not applicable.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk. Our exposure to interest rate risk for changes in interest rates is primarily the interest income generated by our cash deposited with banks. In addition, we are exposed to interest rate risks related to bank borrowings.

Foreign Exchange Risk. The U.S. dollar is our reporting currency. The U.S. dollar is also the functional currency for the majority of our operations. In 2020, more than 99% of our sales and cost of revenues were denominated in U.S. dollars. However, in December 2020, approximately 76% of our operating expenses were denominated in NT dollars, with a small percentage denominated in Japanese Yen, Korean Won, Israel new shekel and Chinese Renminbi, and the majority of the remainder denominated in U.S. dollars. We anticipate that we will continue to conduct substantially all of our sales in U.S. dollars. We do not believe that we have a material currency risk with regard to the NT dollar. We believe the majority of any potential adverse foreign currency exchange impacts on our operating assets may be offset by a potential favorable foreign currency exchange impact on our operating liabilities. From time to time we have engaged in, and may continue to engage in, forward contracts to hedge against our foreign currency exposure.

As of December 31, 2020, no foreign currency exchange contracts are outstanding.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

12.A. Debt Securities

Not applicable.

12.B. Warrants and Rights

Not applicable.

12.C. Other Securities

Not applicable.

12.D. American Depositary Shares

Fees and Charges Payable by ADS Holders

Persons depositing or withdrawing shares or ADS holders must pay:	For:
$5.00 (or less) per 100 ADSs (or portion of 100 ADSs)	Issuance of ADSs, including issuances resulting from a distribution of shares or rights or other property Cancellation of ADSs for the purpose of withdrawal, including if the deposit agreement terminates
$.05 (or less) per ADS	Any cash distribution to ADS holders
A fee equivalent to the fee that would be payable if securities distributed to you had been shares and the shares had been deposited for the issuance of ADSs	Distribution of securities distributed to holders of deposited securities which are distributed by the depositary to ADS holders

$.05 (or less) per ADS per calendar year	Depositary services
Registration or transfer fees	Transfer and registration of shares on our share register to or from the name of the depositary or its agent when you deposit or withdraw shares
Expenses of the depositary	Cable, telex and facsimile transmissions (when expressly provided in the deposit agreement) converting foreign currency to U.S. dollars
Taxes and other governmental charges that the depositary or custodian have to pay on any ADS or share underlying an ADS, e.g., stock transfer taxes, stamp duty or withholding taxes	As necessary
Any charges incurred by the depositary or its agents for servicing the deposited securities	As necessary

The depositary collects its fees for delivery and surrender of ADSs directly from investors depositing shares or surrendering ADSs for the purpose of withdrawal or from intermediaries acting for them. The depositary collects fees for making distributions to investors by deducting those fees from the amounts distributed or by selling a portion of distributable property to pay the fees. The depositary may collect its annual fee for depositary services by deduction from cash distributions or by directly billing investors or charging the book-entry system accounts of participants acting for them. The depositary may collect any of its fees by deduction from any cash distribution payable to ADS holders that are obligated to pay those fees. The depositary may generally refuse to provide fee-attracting services until its fees for those services are paid.

From time to time, the depositary may make payments to us to reimburse and/or share revenue from the fees collected from ADS holders, or waive fees and expenses for services provided, generally relating to costs and expenses arising out of establishment and maintenance of the ADS program. In performing its duties under the deposit agreement, the depositary may use brokers, dealers or other service providers that are affiliates of the depositary and that may earn or share fees or commissions.

Fees and Other Payments from the Depositary to Us

In 2020, we did not receive any payment or fee from the depositary relating to the ADR program.

Appointment of New Depositary Bank

On July 14, 2017, we appointed JPMorgan Chase Bank, N.A. as our new American depositary receipt bank. Effective the same day, our ADR program was officially transferred to JPMorgan Chase Bank, N.A. for a contract term of ten years.

PART II

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

Not applicable.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

Not applicable.

ITEM 15. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our chief executive officer and chief financial officer, after evaluating the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act) as of the end of the period covered by this report, have concluded that based on the evaluation of these controls and procedures required by Rule 13a-15(b) of the Exchange Act, our disclosure controls and procedures are effective.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS as issued by the IASB.

Our internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect our transactions and dispositions of our assets;
- provide reasonable assurance that our transactions are recorded as necessary to permit preparation of our financial statements in accordance with IFRS as issued by the IASB, and that our receipts and expenditures are being made only in accordance with authorizations of our management and our directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of internal control effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management, with the participation of our chief executive and chief financial officers, assessed the effectiveness of our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) as of December 31, 2020 based on the criteria set forth in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on the assessment, our management believes that our internal control over financial reporting was effective as of December 31, 2020.

Attestation Report of the Independent Registered Public Accounting Firm

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Himax Technologies, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Himax Technologies, Inc. and subsidiaries' (the "Company") internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control – Integrated Framework (2013) issued by the COSO.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated statements of financial position of the Company as of December 31, 2019 and 2020, the related consolidated statements of profit or loss, other comprehensive income, changes in equity, and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes (collectively, the "consolidated financial statements"), and our report dated March 31, 2021 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG
Hsinchu, Taiwan
March 31, 2021

Changes in Internal Control over Financial Reporting

In 2020, no change in our internal control over financial reporting has occurred during the period covered by this annual report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 16. [RESERVED]

16.A. Audit Committee Financial Expert

Our board of directors has determined that Yuan-Chuan Horng is an audit committee financial expert, as that term is defined in Item 16A(b) of Form 20-F and is independent for the purposes of Rule 5605(a)(2) of the Nasdaq Rules and Rule 10A-3 of the Exchange Act.

16.B. Code of Ethics

Our board of directors has adopted a code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or

controller and any other persons who perform similar functions for us. We will provide a copy of our code of business conduct and ethics without charge upon written request to:

Himax Technologies, Inc.
Human Resources Department
No. 26, Zih Lian Road,Sinshih District, Tainan City 74148
Taiwan, Republic of China

16.C. Principal Accountant Fees and Services

KPMG, our independent registered public accounting firm, began serving as our independent auditor upon the formation of our company in 2001.

Our audit committee is responsible for the oversight of KPMG's work. The policy of our audit committee is to pre-approve all audit and non-audit services provided by KPMG, including audit services, audit-related services, tax services and other services.

We paid the following fees for professional services to KPMG for the years ended December 31, 2019 and 2020.

Services	Year ended December 31, 2019	2020
Audit Fees[(1)]	$ 764,000	$ 800,000
All Other Fees[(2)]	42,000	19,000
Total	$ 806,000	$ 819,000

Note: (1) Audit Fees. This category includes the audit of our annual financial statements and internal control over financial reporting, quarterly review procedures, services that are normally provided by the independent auditors in connection with statutory and regulatory filings or engagements for those fiscal years. This category also includes statutory audits required by the Tax Bureau of the ROC.

(2) All Other Fees. This category consists of fees in relation to transfer pricing reports and audit of conflict mineral report.

16.D. Exemptions from the Listing Standards for Audit Committees

Not applicable.

16.E. Purchases of Equity Securities by the Issuer and Affiliated Purchasers

On November 1, 2007, our board of directors authorized a share buyback program allowing us to repurchase up to $40.0 million of our ADSs in the open market or through privately negotiated transactions. We concluded this share buyback program in the first quarter of 2008 and repurchased a total of approximately $33.1 million of our ADSs (equivalent to approximately 7.7 million ADSs) from the open market.

On November 14, 2008, our board of directors authorized another share buyback program allowing us to repurchase up to $50.0 million of our ADSs in the open market or through privately negotiated transactions. We concluded this share buyback program in the third quarter of 2010 and repurchased a total of approximately $50.0 million of our ADSs (approximately 19.3 million ADSs) under this program from the open market.

In April 2011, the Companies Law of the Cayman Islands was amended to permit treasury shares if so approved by the board of directors and to the extent that the articles do not prohibit treasury shares. Therefore, we would hold the treasury shares for future employees awards.

On June 20, 2011, our board of directors authorized another share buyback program allowing us to repurchase up to $25.0 million of our ADSs in the open market or through privately negotiated transactions. We concluded this share buyback program in the fourth quarter of 2012 and repurchased a total of approximately $13.4 million of our ADSs (approximately 9.5 million ADSs) under this program from the open market. We did not conduct any repurchase under this program in 2020.

16.F. Change in Registrant's Certifying Accountant

Not applicable.

16.G. Corporate Governance

The Nasdaq Rules provide that foreign private issuers may follow home country practice in lieu of the corporate governance requirements of the NASDAQ Stock Market LLC, subject to certain exceptions and requirements and except to the extent that such exemptions would be contrary to U.S. federal securities laws and regulations. The significant differences between our corporate governance practices and those followed by U.S. companies under the Nasdaq Rules are summarized as follows:

- We follow home country practice that permits our independent directors not to hold regularly scheduled meetings at which only independent directors are present in lieu of complying with Rule 5605(b)(2).

16.H. Mine Safety Disclosure

Not applicable.

PART III

ITEM 17. FINANCIAL STATEMENTS

Not applicable.

ITEM 18. FINANCIAL STATEMENTS

Our consolidated financial statements and the report thereon by our independent registered public accounting firm listed below are attached hereto as follows:

(a) Report of Independent Registered Public Accounting Firm.

(b) Consolidated Statements of Financial Position as of December 31, 2019 and 2020.

(c) Consolidated Statements of Profit or Loss for the years ended December 31, 2018, 2019 and 2020.

(d) Consolidated Statements of Other Comprehensive Income for the years ended December 31, 2018, 2019 and 2020.

(e) Consolidated Statements of Changes in Equity for the years ended December 31, 2018, 2019 and 2020.

(f) Consolidated Statements of Cash Flows for the years ended December 31, 2018, 2019 and 2020.

(g) Notes to the Consolidated Financial Statements.

ITEM 19. EXHIBITS

Exhibit Number	Description of Document
1.1	Third Amended and Restated Memorandum and Articles of Association of the Registrant, as currently in effect. (Incorporated by reference to Exhibit 1.1 from our Annual Report on Form 20-F (file no. 000-51847) filed with the Securities and Exchange Commission on June 3, 2010.)
2.1	Registrant's Specimen American Depositary Receipt (included in Exhibit 2.3).
2.2	Registrant's Specimen Certificate for Ordinary Shares. (Incorporated by reference to Exhibit 4.2 from our Registration Statement on Form F-1 (file no. 333-132372) filed with the Securities and Exchange Commission on March 13, 2006.)
2.3	Form of Deposit Agreement among the Registrant, JPMorgan Chase Bank, N.A., as depositary, and holders of the American depositary receipts. (Incorporated by reference to Exhibit (a) to the Registrant's Registration Statement on Form F-6 (file no. 333-219169) filed with the Securities and Exchange Commission on July 6, 2017.)
2.4	Description of Securities
4.1	Himax Technologies, Inc. 2011 Long-Term Incentive Plan Amended and Restated as of August 31st day, 2016 and 2nd Amended and Restated as of August 28th day, 2019. (Incorporated herein by reference to Exhibit 99.4 to the Registrant's report of foreign private issuer on Form 6-k filed on July 15, 2019.)
4.2*	Agreement and Plan of Merger dated November 8, 2010 among Himax Display, Inc., Spatial Photonics, Inc. and Wen Hsieh. (Incorporated herein by reference to Exhibit 4.3 from our Annual Report on Form 20-F (file no. 000-51847) filed with the Securities and Exchange Commission on May 20, 2011.)
8.1	List of Subsidiaries.
12.1	Certification of Jordan Wu, President and Chief Executive Officer of Himax Technologies, Inc., pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
12.2	Certification of Jessica Pan, Chief Financial Officer of Himax Technologies, Inc., pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
13.1	Certification pursuant to 18 USC. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
15.1	Consent of KPMG, Independent Registered Public Accounting Firm.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema
101.CAL	XBRL Taxonomy Extension Calculation Linkbase
101.DEF	XBRL Taxonomy Extension Definition Linkbase
101.LAB	XBRL Taxonomy Extension Label Linkbase
101.PRE	XBRL Taxonomy Extension Presentation Linkbase

*Confidential treatment has been requested for portions of this exhibit.

SIGNATURES

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, the registrant certifies that it meets all of the requirements for filing on Form 20-F and has duly caused this annual report to be signed on its behalf by the undersigned, thereunto duly authorized.

HIMAX TECHNOLOGIES, INC.

By: /s/ Jordan Wu
Name: Jordan Wu
Title: President and Chief Executive Officer

Date: March 31, 2021

HIMAX TECHNOLOGIES, INC.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Exhibit 8.1

Himax Technologies, Inc.

List of Subsidiaries

Subsidiary	Jurisdiction of Incorporation	Percentage of Our Ownership Interest
Himax Technologies Limited	ROC	100.0%
Himax Technologies Korea Ltd.	South Korea	100.0%
Himax Technologies (Samoa), Inc.	Samoa	100.0%(1)
Himax Technologies (Suzhou) Co., Ltd.	PRC	100.0%(2)
Himax Technologies (Shenzhen) Co., Ltd.	PRC	100.0%(2)
Himax Display, Inc.	ROC	82.7%(1)
Integrated Microdisplays Limited	Hong Kong	82.7%(3)
Himax Display (USA) Inc.	Delaware, USA	82.7%(3)
Himax Analogic, Inc.	ROC	98.6%(1)
Himax Imaging, Inc.	Cayman Islands	100.0%
Himax Imaging, Ltd.	ROC	96.9%(1)
Himax Imaging Corp.	California, USA	96.9%(4)
Himax Media Solutions, Inc.	ROC	99.2%(1)
Harvest Investment Limited	ROC	100.0%(1)
Himax Technologies Japan Ltd.	Japan	100.0%
Himax Semiconductor (Hong Kong) Limited	Hong Kong	100.0%
Liqxtal Technology Inc.	ROC	67.5%(1)
Himax IGI Precision Ltd.	Delaware, USA	100.0%(1)
Emza Visual Sense Ltd.	Israel	100.0%(1)
CM Visual Technology Corp.	ROC	66.7%(1)

(1) Indirectly, through our 100.0% ownership of Himax Technologies Limited.

(2) Indirectly, through our 100.0% ownership of Himax Technologies (Samoa), Inc.

(3) Indirectly, through our 82.7% ownership of Himax Display, Inc.

(4) Indirectly, through our 96.9% ownership of Himax Imaging, Ltd.

Exhibit 12.1

Certification

I, Jordan Wu, certify that:

1. I have reviewed this annual report on Form 20-F of Himax Technologies, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;

4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and

5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: March 31, 2021

By: /s/ Jordan Wu
Name: Jordan Wu
Title: President and Chief Executive Officer

Exhibit 12.2

Certification

I, Jessica Pan, certify that:

1. I have reviewed this annual report on Form 20-F of Himax Technologies, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;

4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and

5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: March 31, 2021

By: /s/ Jessica Pan
Name: Jessica Pan
Title: Chief Financial Officer

Certification **Exhibit 13.1**

March 31, 2021

The certification set forth below is being submitted to the Securities and Exchange Commission in connection with the Annual Report on Form 20-F for the year ended December 31, 2020 (the "Report") for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code.

Jordan Wu, the President and Chief Executive Officer of Himax Technologies, Inc., and Jessica Pan, the Chief Financial Officer of Himax Technologies, Inc., each certifies that, to the best of his or her knowledge:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and

2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Himax Technologies, Inc.

By: /s/ Jordan Wu
Name: Jordan Wu
Title: President and Chief Executive Officer

By: /s/ Jessica Pan
Name: Jessica Pan
Title: Chief Financial Officer

Exhibit 15.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Himax Technologies, Inc.:

We consent to the incorporation by reference in the registration statements (No. 333-137585 and No. 333-176863) on Form S-8 and the registration statement (No. 333-189052) on Form F-3 of Himax Technologies, Inc. and subsidiaries of our reports dated March 31, 2021, with respect to the consolidated statements of financial position of Himax Technologies, Inc. as of December 31, 2019 and 2020, the related consolidated statements of profit or loss, other comprehensive income, changes in equity and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes, and the effectiveness of internal control over financial reporting as of December 31, 2020, which reports appear in the December 31, 2020 annual report on Form 20-F of Himax Technologies, Inc.

/s/ KPMG
Hsinchu, Taiwan
March 31, 2021

HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

Consolidated Financial Statements

December 31, 2018, 2019 and 2020

(With Report of Independent Registered Public Accounting Firm Thereon)

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Himax Technologies, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated statements of financial position of Himax Technologies, Inc. and subsidiaries (the "Company") as of December 31, 2019 and 2020, the related consolidated statements of profit or loss, other comprehensive income, changes in equity, and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes (collectively, the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2020, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2020, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"), and our report dated March 31, 2021 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of a critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Impairment assessment of property, plant and equipment in the Wafer Level Optics cash generating unit

As discussed in Note 15 to the consolidated financial statements, the balance of property, plant and equipment was $132,074 thousand as of December 31, 2020, a portion of which related to the Wafer Level Optics cash generating unit ("CGU"). The Company's property, plant and equipment is reviewed at the reporting date to determine whether there is any indication of impairment. If any such indication exists, impairment assessment will be performed by comparing the carrying amount of the CGU with its recoverable amount. The recoverable amount used in impairment assessment for the Wafer Level Optics CGU is value in use, which is determined by discounting the estimated future cash flows to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset.

We identified the impairment assessment of property, plant and equipment in the Wafer Level Optics CGU as a critical audit matter because of the high degree of subjective auditor's judgment required in evaluating the forecasted future revenues and discount rate assumptions and minor changes to those assumptions could have a significant effect on the Company's impairment assessment of property, plant and equipment in the Wafer Level Optics CGU. In addition, the evaluation of the discount rate involved specialized skills and knowledge.

The primary procedures we performed to address this critical audit matter included the following. We tested certain internal controls over the Company's impairment assessment process of property, plant and equipment, including controls related to the determination of forecasted future revenues and the assumptions used to develop the discount rate. We evaluated the Company's forecasted future revenues by comparing them to the historical revenues of the CGU and industry revenue forecasts. We compared the Company's historical revenue forecasts to actual results to assess the Company's ability to accurately forecast future revenues. We performed sensitivity analyses over the forecasted future revenues and discount rate to assess their impact on the recoverable amount of the CGU. In addition, we involved valuation professionals with specialized skills and knowledge, who assisted in evaluating the Company's discount rate, by comparing it against a range of estimated discount rates developed independently based on market data and inputs.

/s/ KPMG
We have served as the Company's auditor since 2001.
Hsinchu, Taiwan
March 31, 2021

HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

Consolidated Statements of Financial Position

December 31, 2019 and 2020
(in thousands of US dollars)

Assets	**Note**		**December 31, 2019**	**December 31, 2020**
Current assets:				
Cash and cash equivalents	6, 23	$	101,055	184,938
Financial assets at amortized cost	7, 23		11,049	8,682
Financial assets at fair value through profit or loss	8, 23		-	7,799
Accounts receivable, net	11, 23		164,943	243,626
Inventories	12		143,774	108,707
Income taxes receivable	23		88	91
Restricted deposit	17, 23, 27		164,000	104,000
Other receivable from related party	23, 26		1,200	1,200
Other current assets	23		18,559	35,368
Total current assets			604,668	694,411
Financial assets at fair value through profit or loss	8, 23		13,500	13,966
Financial assets at fair value through other comprehensive income	9, 23		709	742
Equity method investments	13		3,746	3,983
Property, plant and equipment, net	15, 18, 27,29, 30		138,938	132,074
Deferred tax assets	5, 22		14,433	15,739
Goodwill			28,138	28,138
Other intangible assets, net	5, 14, 30		8,750	7,876
Restricted deposit	23, 27		133	141
Other non-current assets	19, 23		5,466	12,748
			213,813	215,407
Total assets		**$**	**818,481**	**909,818**

The accompanying notes are an integral part of these consolidated financial statements.

HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

Consolidated Statements of Financial Position (Continued)

December 31, 2019 and 2020
(in thousands of US dollars)

Liabilities and Equity	Note		December 31, 2019	December 31, 2020
Current liabilities:				
Short-term unsecured borrowings	17, 23	$	57,339	-
Current portion of long-term unsecured borrowings	18, 23, 27		-	6,000
Short-term secured borrowings	17, 23, 27		164,000	104,000
Accounts payable	23		114,320	171,903
Accounts payable to related parties	23, 26		-	1,568
Income taxes payable	22		2,903	13,466
Other payable to related parties	23, 26		2,220	2,572
Contract liabilities	29		1,902	6,622
Other current liabilities	5, 15, 16, 23		38,206	46,111
Total current liabilities			380,890	352,242
Long-term unsecured borrowings	18, 27		-	52,500
Net defined benefit liabilities	19		50	47
Deferred tax liabilities	5, 22		1,394	1,138
Other non-current liabilities	15, 23		4,903	18,692
Total liabilities			387,237	424,619
Equity				
Ordinary shares	21		107,010	107,010
Additional paid-in capital	21		105,150	107,293
Treasury shares			(8,764)	(6,516)
Accumulated other comprehensive income	21		(952)	(548)
Retained earnings			230,543	272,937
Equity attributable to owners of Himax Technologies, Inc.			432,987	480,176
Noncontrolling interests	21		(1,743)	5,023
Total equity			431,244	485,199
Total liabilities and equity		**$**	**818,481**	**909,818**

The accompanying notes are an integral part of these consolidated financial statements.

HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

Consolidated Statements of Profit or Loss

For the years ended December 31, 2018, 2019 and 2020
(in thousands of US dollars, except per share data)

	Note		2018	2019	2020
Revenues	29	$	723,605	671,835	887,282
Costs and expenses:					
Cost of revenues	12,19,20,30		554,690	533,916	666,501
Research and development	19,20,26,30		123,037	114,859	122,265
General and administrative	5,19,20,30		21,823	23,672	23,915
Expected credit loss	11		290	67	-
Sales and marketing	19, 20, 30		20,380	17,628	16,675
Total costs and expenses			720,220	690,142	829,356
Operating income(loss)			3,385	(18,307)	57,926
Non operating income (loss):					
Interest income			2,429	2,013	967
Changes in fair value of financial assets at fair value through profit or loss	8		2,036	3,746	472
Foreign currency exchange losses, net			(369)	(546)	(327)
Finance costs			(1,232)	(2,325)	(1,705)
Share of losses of associates	13		(1,095)	(477)	(638)
Other income	5		1,866	128	177
			3,635	2,539	(1,054)
Profit (loss) before income taxes			7,020	(15,768)	56,872
Income tax expense	22		994	416	11,712
Profit (loss) for the year			6,026	(16,184)	45,160
Loss attributable to noncontrolling interests			2,543	2,570	1,974
Profit (loss) attributable to Himax Technologies, Inc. stockholders		**$**	**8,569**	**(13,614)**	**47,134**
Basic earnings (loss) per ordinary share attributable to Himax Technologies, Inc.stockholders	**4(r)**	**$**	**0.02**	**(0.04)**	**0.14**
Diluted earnings (loss) per ordinary share attributable to Himax Technologies, Inc. stockholders	**4(r)**	**$**	**0.02**	**(0.04)**	**0.14**
Basic earnings (loss) per ADS attributable to Himax Technologies, Inc. stockholders	**4(r)**	**$**	**0.05**	**(0.08)**	**0.27**
Diluted earnings (loss) per ADS attributable to Himax Technologies, Inc. stockholders	**4(r)**	**$**	**0.05**	**(0.08)**	**0.27**

The accompanying notes are an integral part of these consolidated financial statements.

HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

Consolidated Statements of Other Comprehensive Income

For the years ended December 31, 2018, 2019 and 2020
(in thousands of US dollars)

	Note		2018	2019	2020
Profit (loss) for the year		$	6,026	(16,184)	45,160
Other comprehensive income:					
Items that will not be reclassified to profit or loss:	19, 21, 22, 23				
Remeasurements of defined benefit pension plans			1,302	214	(214)
Unrealized gain (loss) on financial assets at fair value through other comprehensive income			(702)	(35)	65
Income tax related to items that will not be reclassified subsequently			(169)	(25)	38
Items that may be reclassified subsequently to profit or loss:					
Foreign operations - foreign currency translation differences			(336)	(545)	556
Other comprehensive income for the year, net of tax			95	(391)	445
Total comprehensive income for the year			6,121	(16,575)	45,605
Total comprehensive income attributable to noncontrolling interests			2,538	2,558	1,933
Total comprehensive income attributable to Himax Technologies, Inc. stockholders		**$**	**8,659**	**(14,017)**	**47,538**

The accompanying notes are an integral part of these consolidated financial statements.

HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES
Consolidated Statements of Changes in Equity
For the years ended December 31, 2018, 2019 and 2020
(in thousands of US dollars and shares, except per share data)

	Attributable to owners of Himax Technologies, Inc.									
	Ordinary shares		Additional paid-in capital	Treasury shares		Accumulated other comprehensive income	Retained earnings	Total	Noncontrolling interests	Total Equity
	Shares	Amount		Shares	Amount					
Balance at January 1, 2018	356,700	$ 107,010	104,427	(12,492)	(8,878)	(446)	253,210	455,323	(1,735)	453,588
Effect of adopting IFRS 9	-	-	-	-	-	(193)	193	-	-	-
Profit (loss) for the year	-	-	-	-	-	-	8,569	8,569	(2,543)	6,026
Other comprehensive income	-	-	-	-	-	90	-	90	5	95
Total comprehensive income for the year	-	-	-	-	-	(103)	8,762	8,659	(2,538)	6,121
Contributions by and distributions to owners										
Declaration of cash dividends, $0.05 per share	-	-	-	-	-	-	(17,210)	(17,210)	-	(17,210)
Share-based compensation expenses	-	-	386	-	-	-	-	386	22	408
Restricted stock vested	-	-	(59)	83	59	-	-	-	-	-
	-	-	327	83	59	-	(17,210)	(16,824)	22	(16,802)
Changes in ownership interests										
New shares issued by subsidiary	-	-	21	-	-	-	-	21	(10)	11
Dilution gain of equity method investment	-	-	(26)	-	-	-	(605)	(631)	-	(631)
	-	-	(5)	-	-	-	(605)	(610)	(10)	(620)
Balance at December 31, 2018	**356,700**	**$ 107,010**	**104,749**	**(12,409)**	**(8,819)**	**(549)**	**244,157**	**446,548**	**(4,261)**	**442,287**

The accompanying notes are an integral part of these consolidated financial statements.

HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES
Consolidated Statements of Changes in Equity (Continued)
For the years ended December 31, 2018, 2019 and 2020
(in thousands of US dollars and shares, except per share data)

	Attributable to owners of Himax Technologies, Inc.									
	Ordinary shares		Additional paid-in capital	Treasury shares		Accumulated other comprehensive income	Retained earnings	Total	Noncontrolling interests	Total Equity
	Shares	Amount		Shares	Amount					
Profit (loss) for the year	-	-	-	-	-	-	(13,614)	(13,614)	(2,570)	(16,184)
Other comprehensive income	-	-	-	-	-	(403)	-	(403)	12	(391)
Total comprehensive income for the year	-	-	-	-	-	(403)	(13,614)	(14,017)	(2,558)	(16,575)
Contributions by and distributions to owners										
Share-based compensation expenses	-	-	452	-	-	-	-	452	5	457
Restricted stock vested	-	-	(55)	77	55	-	-	-	-	-
	-	-	397	77	55	-	-	452	5	457
Changes in ownership interests										
Dilution gain of equity method investment	-	-	4	-	-	-	-	4	-	4
Transfer of financial liability to noncontrolling interests	-	-	-	-	-	-	-	-	5,071	5,071
	-	-	4	-	-	-	-	4	5,071	5,075
Balance at December 31, 2019	**356,700**	**$ 107,010**	**105,150**	**(12,332)**	**(8,764)**	**(952)**	**230,543**	**432,987**	**(1,743)**	**431,244**

The accompanying notes are an integral part of these consolidated financial statements.

HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES
Consolidated Statements of Changes in Equity (Continued)
For the years ended December 31,2018, 2019 and 2020
(in thousands of US dollars and shares, except per share data)

	Attributable to owners of Himax Technologies, Inc.									
	Ordinary shares		Additional paid-in capital	Treasury shares		Accumulated other comprehensive income	Retained earnings	Total	Noncontrolling interests	Total Equity
	Shares	Amount		Shares	Amount					
Profit (loss) for the year	-	-	-	-	-	-	47,134	47,134	(1,974)	45,160
Other comprehensive income	-	-	-	-	-	404	-	404	41	445
Total comprehensive income for the year	-	-	-	-	-	404	47,134	47,538	(1,933)	45,605
Contributions by and distributions to owners										
Share-based compensation expenses	-	-	755	-	-	-	-	755	8	763
Restricted stock vested	-	-	(11)	16	11	-	-	-	-	-
Employee stock options exercised	-	-	1,408	3,150	2,237	-	-	3,645	-	3,645
	-	-	2,152	3,166	2,248	-	-	4,400	8	4,408
Changes in ownership interests										
New shares issued by subsidiary	-	-	(34)	-	-	-	(4,740)	(4,774)	8,695	3,921
Dilution gain of equity method investment	-	-	25	-	-	-	-	25	-	25
Declaration of cash dividends by subsidiary	-	-	-	-	-	-	-	-	(4)	(4)
	-	-	(9)	-	-	-	(4,740)	(4,749)	8,691	3,942
Balance at December 31, 2020	**356,700**	**$ 107,010**	**107,293**	**(9,166)**	**(6,516)**	**(548)**	**272,937**	**480,176**	**5,023**	**485,199**

The accompanying notes are an integral part of these consolidated financial statements.

HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

Consolidated Statements of Cash Flows

For the years ended December 31, 2018, 2019 and 2020
(in thousands of US dollars)

		2018	2019	2020
Cash flows from operating activities:				
Profit (loss) for the year	$	6,026	(16,184)	45,160
Adjustments for:				
Depreciation and amortization		20,327	24,399	23,596
Expected credit loss recognized on accounts receivable		290	67	-
Share-based compensation expenses		408	457	763
Gain on disposals of property, plant and equipment, net		-	(90)	(244)
Gain on re-measurement of the pre-existing relationships in a business combination		(1,662)	-	-
Changes in fair value of financial assets at fair value through profit or loss		(2,036)	(3,746)	(472)
Interest income		(2,429)	(2,013)	(967)
Finance costs		1,232	2,325	1,705
Income tax expense		994	416	11,712
Share of losses of associates		1,095	477	638
Inventories write downs		17,724	25,447	11,919
Unrealized foreign currency exchange losses (gains)		294	121	(239)
		42,263	31,676	93,571
Changes in:				
Accounts receivable		(794)	23,992	(78,297)
Inventories		(45,085)	(6,660)	24,772
Other current assets		(1,511)	35	(2,881)
Accounts payable		10,567	(36,180)	55,767
Accounts payable to related parties		-	-	1,568
Other payable to related parties		1,597	(1,577)	352
Net defined benefit liabilities		(128)	6	(15)
Contract liabilities		(149)	1,447	4,720
Other current liabilities		902	(581)	1,134
Other non-current liabilities		(458)	250	5,365
Cash generated from operating activities		7,204	12,408	106,056
Interest received		2,361	2,060	1,066
Interest paid		(877)	(2,372)	(1,811)
Income tax paid		(4,679)	(4,440)	(2,701)
Net cash provided by operating activities		4,009	7,656	102,610

The accompanying notes are an integral part of these consolidated financial statements.

HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

Consolidated Statements of Cash Flows (Continued)

For the years ended December 31, 2018, 2019 and 2020
(in thousands of US dollars)

		2018	2019	2020
Cash flows from investing activities:				
Acquisitions of property, plant and equipment	$	(49,672)	(45,922)	(5,786)
Proceeds from disposal of property, plant and equipment		1	98	249
Acquisitions of intangible assets		(925)	(152)	(87)
Acquisitions of financial assets at amortized cost		(4,766)	(4,023)	(3,829)
Proceeds from disposal of financial assets at amortized cost		3,514	4,171	6,735
Acquisitions of financial assets at fair value through profit or loss		(26,277)	(50,487)	(19,743)
Proceeds from disposal of financial assets at fair value through profit or loss		48,764	50,648	12,068
Acquisition of business		(700)	(700)	-
Acquisition of a subsidiary, net of cash acquired		(3,301)	(400)	1,302
Proceeds from capital reduction of investment		55	47	32
Acquisitions of equity method investments		(2,093)	(129)	(792)
Decrease (increase) in refundable deposits		87	(2,821)	(13,992)
Releases (pledges) of restricted deposit		14	323	(8)
Cash paid for loan made to related party		(780)	(1,200)	-
Cash received from loan made to related party		-	2,780	-
Cash received in advance from disposal of land		-	-	1,486
Income tax paid for disposal of financial assets at fair value through profit or loss		(2,187)	-	-
Net cash used in investing activities		(38,266)	(47,767)	(22,365)
Cash flows from financing activities:				
Payments of cash dividends		(17,210)	-	(4)
Proceeds from issuance of new shares by subsidiaries		11	-	884
Proceeds from short-term unsecured borrowings		40,000	244,224	208,137
Repayments of short-term unsecured borrowings		(20,000)	(207,006)	(265,355)
Proceeds from long-term unsecured borrowings		-	-	60,000
Repayments of long-term unsecured borrowings		-	-	(1,500)
Proceeds from short-term secured borrowings		91,000	158,000	278,000
Repayments of short-term secured borrowings		(74,000)	(158,000)	(338,000)
Release (pledge) of restricted deposit		(17,000)	-	60,000
Payment of lease liabilities		-	(1,957)	(2,608)
Proceeds from exercise of employee stock options		-	-	3,707
Net cash provided by financing activities		2,801	35,261	3,261
Effect of foreign currency exchange rate changes on cash and cash equivalents		(130)	(532)	377
Net increase (decrease) in cash and cash equivalents		(31,586)	(5,382)	83,883
Cash and cash equivalents at beginning of year		138,023	106,437	101,055
Cash and cash equivalents at end of year	**$**	**106,437**	**101,055**	**184,938**

The accompanying notes are an integral part of these consolidated financial statements.

HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

Notes to Consolidated Financial Statements

For the years ended December 31, 2018, 2019 and 2020

Note 1. Reporting entity

Himax Technologies Limited, an exempted company with limited liability under the Cayman Islands Companies Law, was incorporated on April 26, 2005 and changed the name to "Himax Technologies, Inc." on September 26, 2005. Since March 2006, Himax Technologies, Inc.'s ordinary shares have been quoted on the NASDAQ Global Select Market under the symbol "HIMX" in the form of ADSs and two ordinary shares represent one ADS with effect from August 10, 2009.

The registered office in the Cayman Islands is located at Cricket Square, Hutchins Drive, P.O. Box 2681, Grand Cayman KY1-1111, Cayman Islands. The principal executive office is located at No. 26, Zih Lian Road, Sinshih District, Tainan City 74148, Taiwan, Republic of China.

The principal operating activities of Himax Technologies, Inc. and subsidiaries (collectively, the Company) are described in Note 4(b).

Note 2. Basis of preparation

(a) Statement of compliance

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB").

The consolidated financial statements were authorized for issuance by the Board of Directors on March 31, 2021.

(b) Basis of measurement

The consolidated financial statements have been prepared on the historical cost basis except for the following material items in the statement of financial position:

1. Financial assets at fair value through profit or loss;

2. Financial assets at fair value through other comprehensive income;

3. The defined benefit liability (asset) is recognized as the fair value of the plan assets less the present value of the defined benefit obligation.

Note 3. Application of new and revised IFRS as issued by the IASB

a. Amendments to IFRSs and the new interpretation that are mandatorily effective for the current year

New, Revised or Amended Standards and Interpretations	Effective Date Announced by IASB
Amendments to References to the Conceptual Framework in IFRS Standards	January 1, 2020
Amendments to IFRS 3 "Definition of a Business"	January 1, 2020
Amendments to IFRS 9, IAS39 and IFRS7 "Interest Rate Benchmark Reform"	January 1, 2020
Amendments to IAS 1 and IAS 8 "Definition of Material"	January 1, 2020
Amendment to IFRS 16, "Covid-19-Related Rent Concessions"	June 1, 2020

The Company believes that the adoption of the above IFRSs does not have a significant impact on its consolidated financial statements.

b. New and revised standards, amendments and interpretations in issue but not yet effective

In preparing the accompanying consolidated financial statements, the Company has not adopted the following International Financial Reporting Standards ("IFRS"), International Accounting Standards ("IAS"), Interpretations developed by the International Financial Reporting Interpretations Committee ("IFRIC") or the former Standing Interpretations Committee ("SIC") issued by the International Accounting Standards Board ("IASB") (collectively, "IFRSs").

New, Revised or Amended Standards and Interpretations	Effective Date Announced by IASB
Amendments to IFRS 10 and IAS 28 "Sale or Contribution of Assets Between an Investor and Its Associate or Joint Venture"	Effective date to be determined by IASB
IFRS 17 "Insurance Contracts"	January 1, 2023
Amendments to IAS 1 "Classification of Liabilities as Current or Non-current"	January 1, 2023
Amendments to IFRS 17 "Insurance Contracts"	January 1, 2023
Amendments to IAS 1 "Disclosure of Accounting Policies"	January 1, 2023
Amendments to IAS 8 "Definition of Accounting Estimates"	January 1, 2023
Amendments to IAS 16 "Property, Plant and Equipment—Proceeds before Intended Use"	January 1, 2022
Amendments to IAS 37 "Onerous Contracts—Cost of Fulfilling a Contract"	January 1, 2022
Annual Improvements to IFRS Standards 2018–2020	January 1, 2022
Amendments to IFRS 3 "Reference to the Conceptual Framework"	January 1, 2022
Amendments to IFRS 4 "Extension of the Temporary Exemption from Applying IFRS 9"	January 1, 2021
Amendments to IFRS 9, IAS39, IFRS7, IFRS 4 and IFRS 16 "Interest Rate Benchmark Reform—Phase 2"	January 1, 2021

As of the date of the consolidated financial statements were authorized for issue, the Company continues in assessing other possible impacts that application of the abovementioned amendments will have on the Company's financial position and financial performance and will disclose these other impacts when the assessment is completed.

Note 4. Significant accounting policies

The significant accounting policies applied in the preparation of these consolidated financial statements are set out as below. The accounting policies set out below have been applied consistently to all periods presented in these consolidated financial statements, except if mentioned otherwise. The accounting policies have been applied consistently by consolidated entities.

(a) Basis of Consolidation

The accompanying consolidated financial statements include the accounts and operations of Himax Technologies, Inc. and its majority owned subsidiaries and entities that it has a controlling financial interest. All significant intercompany balances and transactions have been eliminated in consolidation.

(b) List of Subsidiaries in the Consolidated Financial Statements

Following is general information about Himax Technologies, Inc.'s subsidiaries:

				Percentage of Ownership	
Investor	Subsidiary	Main activities	Jurisdiction of Incorporation	December 31, 2019	December 31, 2020
Himax Technologies, Inc.	Himax Technologies Limited ("Himax Taiwan")	IC design and sales	ROC	100.00%	100.00%
Himax Technologies, Inc.	Himax Technologies Korea Ltd.	IC design and sales	South Korea	100.00%	100.00%
Himax Technologies, Inc.	Himax Technologies Japan Ltd.	Sales	Japan	100.00%	100.00%
Himax Technologies, Inc.	Himax Semiconductor (Hong Kong) Limited	Investments	Hong Kong	100.00%	100.00%
Himax Technologies Limited	Himax Technologies (Samoa), Inc.	Investments	Samoa	100.00%	100.00%
Himax Technologies (Samoa), Inc.	Himax Technologies (Suzhou) Co., Ltd.	Sales and technical support	PRC	100.00%	100.00%

HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

Notes to Consolidated Financial Statements (Continued)

For the years ended December 31, 2018, 2019 and 2020

Investor	Subsidiary	Main activities	Jurisdiction of Incorporation	Percentage of Ownership	
				December 31, 2019	December 31, 2020
Himax Technologies (Samoa), Inc.	Himax Technologies (Shenzhen) Co., Ltd.	Sales and technical support	PRC	100.00%	100.00%
Himax Technologies Limited	Himax Display, Inc.	LCOS and MEMS design, manufacturing and sales	ROC	82.68%	82.68%
Himax Display, Inc.	Integrated Microdisplays Limited	LCOS design	Hong Kong	82.68%	82.68%
Himax Display, Inc.	Himax Display (USA) Inc.	LCOS and MEMS design, sales and technical support	Delaware, USA	82.68%	82.68%
Himax Technologies Limited	Himax Analogic, Inc.	IC design and sales	ROC	98.62%	98.62%
Himax Technologies, Inc.	Himax Imaging, Inc.	Investments	Cayman Islands	100.00%	100.00%
Himax Technologies Limited	Himax Imaging, Ltd. (“Imaging Taiwan”)	IC design and sales	ROC	93.70%	96.85%
Himax Imaging, Ltd.	Himax Imaging Corp.	IC design	California, USA	93.70%	96.85%
Himax Technologies Limited	Himax Media Solutions, Inc.	ASIC service	ROC	99.22%	99.22%
Himax Technologies Limited	Harvest Investment Limited	Investments	ROC	100.00%	100.00%
Himax Technologies Limited	Liqxtal Technology Inc.	LC Lens design and sales	ROC	64.00%	67.49%
Himax Technologies Limited	Himax IGI Precision Ltd.	3D micro and nano structure mastering and prototype replication	Delaware, USA	100.00%	100.00%
Himax Technologies Limited	Emza Visual Sense Ltd.	Visual sensors and efficient machine vision algorithm	Israel	100.00%	100.00%
Himax Technologies Limited	CM Visual Technology Corp.[(1)]	Omniwide film products design and sales	ROC	-	66.71%

Note(1): On October 30, 2020, Himax Technologies Limited acquired 66.71% of the shareholdings of CM Visual Technology Corp. (“CMVT”) and therefore, obtained control over CMVT. Refer to Note 5(c) for further details.

Principal Activities

The Company is a fabless semiconductor solution provider dedicated to display imaging processing technologies. The Company is a worldwide market leader in display driver ICs and timing controllers used in TVs, laptops, monitors, mobile phones, tablets, automotive, digital cameras, car navigation, virtual reality (VR) devices and many other consumer electronics devices. Additionally, the Company designs and provides controllers for touch sensor displays, in-cell Touch and Display Driver Integration (TDDI) single-chip solutions, LED driver ICs, power management ICs, and LCOS micro-displays for augmented reality (AR) devices and heads-up displays (HUD) for automotive. The Company also offers CMOS image sensors, Wafer Level Optics (WLO) for AR devices, 3D sensing and ultralow power smart sensing, which are used in a wide variety of applications such as mobile phone, tablet, laptop, TV, PC camera, automobile, security, medical devices, home appliance, AIoT etc.

(c) Foreign Currency

The reporting currency of the Company is the United States dollar (USD). The functional currency for the Company and its major operating subsidiaries is the USD. Accordingly, the assets and liabilities of subsidiaries whose functional currency is other than the USD are included in the consolidation by translating the assets and liabilities into the reporting currency (the USD) at the exchange rates applicable at the end of the reporting period. Equity accounts are translated at historical rates. The statements of profit or loss and cash flows are translated at the average exchange rates at the date of transaction. Translation gains or losses are accumulated as a separate component of equity in accumulated other comprehensive income.

(d) Classification of Current and Noncurrent Assets and Liabilities

Current assets are assets held for trading purposes and assets expected to be converted to cash, sold or consumed within one year from the end of the reporting period. Current liabilities are obligations incurred for trading purposes and obligations expected to be settled within one year from the end of the reporting period. Assets and liabilities that are not classified as current are noncurrent assets and liabilities, respectively.

(e) Cash and Cash Equivalents

Cash comprise cash balances and demand deposits. Cash equivalents comprise short-term highly liquid investments that are readily convertible into known amounts of cash and are subject to an insignificant risk of changes in their fair value. Deposits with an original maturity of three months or less at the time of purchase but not for investments and other purposes and are qualified with the aforementioned criteria are classified as cash equivalent.

(f) Financial Instruments

The Company shall recognize a financial asset or a financial liability in its statement of financial position when, and only when, the Company becomes party to the contractual provisions of the instrument. A regular way purchase or sale of financial assets shall be recognized and derecognized, as applicable, using trade date accounting.

1. Financial Assets

(i) Classification of financial assets

The classification of financial assets depends on the nature and purpose of the financial assets and is determined at the time of initial recognition. Financial assets are classified into the following categories: measured at amortized cost, measured at fair value through other comprehensive income (FVTOCI) and measured at fair value through profit or loss (FVTPL). The classification of financial assets is generally based on the business model in which a financial asset is managed and its contractual cash flow characteristics. When, and only when, the Company changes its business model for managing financial assets it shall reclassify all affected financial assets.

i. Financial assets measured at amortized cost

A financial asset is measured at amortized cost if it meets both of the following conditions and is not designated as measured at fair value through profit or loss:

(i) the asset held within a business model whose objective is to hold assets to collect contractual cash flows; and

(ii) the contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Financial assets measured at amortized cost are subsequently measured at amortized cost using the effective interest method. The amortized cost is reduced by impairment losses. Interest income, foreign exchange gains and losses and impairment are recognized in profit or loss. Any gain or loss on derecognition is recognized in profit or loss.

ii. Financial assets measured at fair value through other comprehensive income (FVTOCI)

On initial recognition of an equity investment that is not held for trading, the Company may irrevocably elect to present subsequent changes in the investment's fair value in OCI. This election is made on an investment-by-investment basis.

Equity investments at FVTOCI are subsequently measured at fair value. Dividends are recognized as income in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognized in OCI. When an investment is derecognized, the cumulative gain or loss in equity will not be reclassified to profit or loss, instead, is reclassified to retained earnings.

iii. Financial assets measured at fair value through profit or loss (FVTPL)

All financial assets not classified as measured at amortized cost or at fair value through other comprehensive income as described above are measured at fair value through profit or loss.

Such financial assets are initially recognized at fair value, and attributable transaction costs are recognized in profit or loss as incurred. Subsequent to initial recognition, they are measured at fair value and changes therein are recognized in profit or loss.

(ii) Impairment of financial assets

The Company recognizes loss allowances for expected credit loss on financial assets measured at amortized cost (including accounts receivable) and contract assets.

The loss allowance for accounts receivable and contract assets are measured at an amount equal to lifetime expected credit losses. For financial assets at amortized cost and contract assets, when the credit risk on the financial instrument has not increased significantly since initial recognition, a loss allowance is recognized at an amount equal to expected credit loss resulting from possible default events of a financial instrument within 12 months after the reporting date. If, on the other hand, there has been a significant increase in credit risk since initial recognition, a loss allowance is recognized at an amount equal to expected credit loss resulting from all possible default events over the expected life of a financial instrument.

When determining whether the credit risk of a financial instrument has increased significantly since initial recognition, the Company considers reasonable and supportable information that is relevant. This includes both qualitative and quantitative information and analysis, based on the Company's historical experience and credit assessment as well as forward-looking information.

The Company recognizes an impairment gain or loss in profit or loss for all financial instruments with a corresponding adjustment to their carrying amount through a loss allowance account.

(iii) Derecognition of financial assets

The Company derecognizes a financial asset only when the contractual rights to the cash flows from the financial asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the financial asset to another entity.

On derecognition of a financial asset at amortized cost in its entirety, the difference between the asset's carrying amount and the sum of the consideration received and receivable is recognized in profit or loss. However, on derecognition of an investment in an equity instrument at FVTOCI, the cumulative gain or loss that had been recognized in other comprehensive income is transferred directly to retained earnings, without recycling through profit or loss.

2. Financial Liabilities

(i) Classification of financial liability

The Company classify all financial liabilities as measured at amortized cost, except for financial liabilities measured at fair value through profit or loss. Such liabilities, including derivatives that are liabilities, shall be subsequently measured at fair value.

(ii) Derecognition of financial liability

The Company removes a financial liability from its statement of financial position when, and only when, it is extinguished-when the obligation specified in the contract is discharged or cancelled or expires.

On derecognition of a financial liability at amortized cost in its entirety, the difference between the carrying amount of a financial liability extinguished or transferred to another party and the consideration paid, including any non-cash assets transferred or liabilities assumed, shall be recognized in profit or loss.

(g) Inventories

Inventories primarily consist of raw materials, work-in-process and finished goods awaiting final assembly and test and are stated at the lower of cost and net realizable value. Cost is determined using the weighted-average method. For work-in-process and manufactured inventories, cost consists of the cost of raw materials (primarily fabricated wafer and processed tape), direct labor and an appropriate proportion of production overheads. Net realizable value for raw materials is based on replacement cost. Net realizable value for finished goods and work in process is calculated based on the estimated selling price less all estimated costs of completion and necessary selling costs.

(h) Equity Method Investments

Equity investments in entities where the Company has the ability to exercise significant influence over the operating and financial policy decisions of the investee but does not have a controlling financial interest in the investee, are accounted for using the equity method. The Company's share of the net income or net loss of an investee is recognized in earnings from the date the significant influence commences until the date that significant influence ceases. The difference between the cost of an investment and the amount of underlying equity in net assets of an investee at investment date is allocated to related assets which are amortized over their useful lives. Any unallocated difference is treated as investor-level goodwill and is not amortized.

The Company discontinues the use of the equity method from the date when the Company ceases to have significant influence over an associate, and then measures the retained interests at fair value at that date. The difference between the carrying amount of the investment at the date the equity method was discontinued and the fair value of the retained interests along with any proceeds from disposing of a part of the interest in the associate is recognized in profit or loss. When the Company discontinues the use of the equity method, the Company shall account for all amounts previously recognized in other comprehensive income in relation to that investment on the same basis as would have been required if the investee had directly disposed of the related assets or liabilities.

At the end of each reporting period, if there is any indication of impairment, the entire carrying amount of the investment including goodwill is tested for impairment as a single asset, by comparing its recoverable amount with its carrying amount. An impairment loss recognized forms part of the carrying amount of the investment in associates. Accordingly, any reversal of that impairment loss is recognized to the extent that the recoverable amount of the investment subsequently increases.

(i) Property, Plant and Equipment

Property, plant and equipment consists primarily of land, building and machinery and equipment used in the design and development of products, and is stated at cost less accumulated depreciation and any accumulated impairment loss. Depreciation on building and machinery and equipment commences when the asset is ready for its intended use. Except for the following paragraph, depreciation is primarily calculated on the straight-line method over the estimated useful lives of related assets which range as follows: building 25 years, building improvements 4 to 16 years, machinery 4 to 10 years, research and development equipment 2 to 6 years, office furniture and equipment 3 to 8 years, others 2 to 10 years. Leasehold improvements are amortized on a straight-line basis over the shorter of the lease term or the estimated useful life of the asset. Embedded software is amortized on a straight-line basis over the estimated useful lives ranging from 2 to 15 years. Land is not depreciated.

If significant parts of an item of property, plant and equipment have different useful lives, then they are accounted for as separate items (major components) of property, plant and equipment.

During the year 2017, certain new machinery and equipment have been acquired for specific project. The depreciation on these new assets is calculated on Fixed-Percentage-on-Declining-Base Method basis over the estimated useful lives of 3 years. The Company thinks that method would most closely reflect the expected pattern of consumption of the future economic benefits embodied in those assets.

Depreciation methods, useful lives and residual values are reviewed at each reporting date and adjusted if appropriate.

(j) Leases (policy applicable from January 1, 2019)

The Company has applied IFRS 16 using the modified retrospective approach and therefore the comparative information has not been restated and continues to be reported under IAS 17 and IFRIC 4. The details of the policies under IAS 17 and IFRIC 4 are described separately.

a. Identifying a lease

A contract is, or contains, a lease when all the following conditions are satisfied:

(i) the contract involves the use of an identified asset, and the supplier does not have a substantive right to substitute the asset; and

(ii) the Company has the right to obtain substantially all of the economic benefits from use of the identified asset throughout the period of use; and

(iii) the Company has the right to direct the use of the identified asset throughout the period of use.

b. As a lessee

Payments for leases of low-value assets and short-term leases are recognized as expenses on a straight-line basis during the lease term for which the recognition exemption is applied. Except for leases described above, a right-of-use asset and a lease liability shall be recognized for all other leases at the lease commencement date.

The Company recognizes a right-of-use asset and a lease liability at the lease commencement date. The lease liability is initially measured at the present value of the lease payments, discounted using the lessee's incremental borrowing rate. The Company determines its incremental borrowing rate by obtaining interest rates from various external financing sources. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability, adjusted for any lease payments made at or before the commencement date, less any lease incentives received, plus any initial direct costs incurred and an estimate of costs to be incurred in restoring the underlying asset.

The right-of-use asset is subsequently depreciated using the straight-line method over the shorter of the useful life of the right-of-use asset or the lease term. The lease liability is subsequently measured at amortized cost using the effective interest method. It is remeasured (i) if there is a change in the lease term; (ii) if there is a change in future lease payments arising from a change in an index or a rate; (iii) if there is a change in the amounts expected to be payable under a residual value guarantee; or (iv) if the Company changes its assessment of whether it will exercise a purchase, extension or termination option. When the lease liability is remeasured in the circumstances aforementioned, a corresponding adjustment is made to the carrying amount of the right-of-use asset. However, if the carrying amount of the right-of-use asset is reduced to zero, any remaining amount of the remeasurement is recognized in profit or loss.

Lease payments included in the measurement of the lease liability comprise the following:

(i) fixed payments, including in-substance fixed payments.

(ii) the exercise price under a purchase option that the Company is reasonably certain to exercise and lease payments in an optional renewal period if the Company is reasonably certain to exercise an extension option.

Moreover, the lease liability is remeasured when lease modifications occur that decrease the scope of the lease. The Company accounts for the remeasurement of the lease liability by decreasing the carrying amount of the right-of-use asset to reflect the partial or full termination of the lease and recognizes in profit or loss any gain or loss relating to the partial or full termination of the lease.

c. As a lessor

Lease income from an operating lease is recognized in profit or loss on a straight-line basis over the lease term. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the asset leased.

Leases (policy applicable before January 1, 2019)

Leases are classified as finance lease whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee. All other leases are classified operating leases.

As a lessee

Operating lease payments were recognized in profit or loss on a straight-line basis over the term of the lease.

As a lessor

Rental income from operating leases were recognized in profit or loss on a straight-line basis over the term of the lease.

(k) Goodwill

Goodwill is recognized when the purchase price exceeds the fair value of identifiable net assets acquired in a business combination. Goodwill is measured at cost less accumulated impairment losses, if any.

Goodwill from acquisition of Himax Semiconductor, Inc. (formerly Wisepal Technologies, Inc., merged into Himax Technologies Limited on July 2, 2018) in 2007 amounting $26,846 thousand has been assigned to Driver IC cash generating unit ("CGU") and goodwill from acquisition of Himax Display (USA) Inc. in 2012 amounting $1,292 thousand has been assigned to WLO CGU because these CGUs are expected to benefit from the synergies of the business combinations.

Goodwill is not amortized and instead is reviewed for impairment at least annually, or more frequently when there is an indication that the CGU may be impaired. For the purpose of impairment testing, goodwill is allocated to each of the Company's CGU or groups of CGU that are expected to benefit from the synergies of the combination. If the recoverable amount of a cash-generating unit is less than its carrying amount, the difference is allocated first to reduce the carrying amount of any goodwill allocated to such CGU and then to the other assets of the CGU pro rata based on the carrying amount of each asset in the CGU. Any impairment loss for goodwill is recognized directly in profit or loss. An impairment loss recognized for goodwill is not reversed in subsequent periods.

The recoverable amount is the higher of fair value less costs of disposal and value in use. In assessing value in use which was calculated based on the cash flow forecast from the financial budgets covering the future five-year period with the terminal growth rate. The annual discount rate was 13.3% and 18.28% in its test of Goodwill impairment for Driver IC CGU as of December 31, 2019 and 2020, respectively, based on industry weighted average cost of capital. The annual discount rate for WLO CGU was 16.07% and 15.41% as of December 31, 2019 and 2020, respectively. The terminal growth rate, based on following 5 years average Taiwan economic growth rate published by International Monetary Fund, was 2.04% and 2.32% used in the test for both CGUs as of December 31, 2019 and 2020, respectively. The key assumptions abovementioned represents the management's forecast of the future for the related industry by considering the history information from internal and external sources.

For the years ended December 31, 2018, 2019 and 2020, the Company did not recognize any impairment loss on goodwill.

(l) Other Intangible Assets

Acquired intangible assets include patents, intellectual property and developed technology acquired in a business combination. These intangible assets are amortized on a straight-line basis over the following estimated useful lives: software 2-3 years, patents 12-15 years, intellectual property 10 years and technology 7 years.

Amortization methods, useful lives and residual values are reviewed at each reporting date and adjusted if appropriate.

(m) Impairment of Non-Financial Assets

The Company's long-term non-financial assets, which consist of property, plant and equipment and intangible assets, are reviewed at the reporting date to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated.

The recoverable amount of an asset or cash-generating unit is the greater of its value in use and its fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. Considering the terminal growth rate if non-financial assets with an indefinite useful life are allocated to the CGU in comparison with its carrying amount.

For the purpose of impairment testing, assets that cannot be tested individually are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other assets or groups of assets (the "cash-generating unit, or CGU").

The annual discount rate was 13.14% and 13.23% in its test of non-financial assets impairment with an indefinite useful life for CMOS CGU as of December 31, 2019 and 2020, respectively, based on industry weighted average cost of capital. The terminal growth rate, based on following 5 years average Taiwan economic growth rate published by International Monetary Fund, was 2.04% and 2.32% used in the test as of December 31, 2019 and 2020, respectively. The key assumptions abovementioned represents the management's forecast of the future for the related industry by considering the history information from internal and external sources.

An impairment loss is recognized if the carrying amount of an asset or its CGU exceeds its estimated recoverable amount. Impairment losses are recognized in profit or loss. When an impairment loss subsequently reverses, the carrying amount of the asset or a CGU is increased to the revised estimate of its recoverable amount, but the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset or CGU in prior years. A reversal of an impairment loss is recognized immediately in profit or loss.

(n) Revenue Recognition

Effective January 1, 2018, the Company adopted IFRS 15, Revenue with contract customers retrospectively with practical expedient and transitional exemption. The Company is not required to restate contracts that were begin and end within the same annual reporting period. There is no significant impact on the Company's financial results in applying the practical expedient.

IFRS 15 establishes principles for recognizing revenue that apply to all contracts with customers, using a five-step model framework to determine the method, timing and amount of revenue recognized. The Company generates revenue primarily from sale of goods or services. Revenue from contracts with customers is disaggregated by primarily geographical market and major products.

Under IFRS 15, the Company identifies the contract with the customers and recognizes revenue when performance obligations are satisfied.

Revenue is measured based on the consideration that the Company expects to be entitled in the transfer of goods or services to a customer. The Company recognizes revenue when it satisfies a performance obligation by transferring control over a product or service to a customer. Customers obtain control of the product when the goods are delivered and accepted by customers. Invoices are generated at that point in time.

The Company's revenue recognition from product sales is measured at the amount that is highly probable that a significant reversal in the amount of cumulative revenue recognized will not occur. Revenue is reduced for estimated rebates and other similar allowances.

Trade receivable is recognized when the Company is entitled for unconditional right to receive payment upon delivery of goods to customers. The consideration received in advance from the customer but without delivery of goods is recognized as a contract liability, for which revenue is recognized when the control over the goods is transferred to the customer.

The Company expects that the length of time when the Company transfers the goods or services to the customer and when the customer pays for those goods or services will be less than one year. Therefore, the amount of consideration is not adjusted for the time value of money.

(o) Employee Benefits

1. Short-term employee benefits

   Short-term employee benefits are expensed unless another policy allows or requires it to be capitalized. Liabilities recognized in respect of short-term employee benefits are measured at the undiscounted amount of the benefits expected to be paid in exchange for service rendered by employees.

2. Share-based payment arrangements

   The cost of employee services received in exchange for share-based compensation is measured based on the grant-date fair value of the share-based instruments issued. The cost of employee services is equal to the grant-date fair value of shares issued to employees and is recognized in earnings with a corresponding increase in equity over the service period by graded vesting. Compensation cost also considers the number of awards management believes will eventually vest. As a result, compensation cost is reduced by the estimated forfeitures. The estimate is adjusted each period to reflect the current estimate of forfeitures, and finally, the actual number of awards that vest.

3. Defined contribution plans

   Obligations for contributions to defined contribution pension plans are recognized as an employee benefit expense in profit or loss in the periods during which services are rendered by employees.

4. Defined benefit plans

The Company's net obligation in respect of defined benefit pension plans is calculated separately for each benefit plan by estimating the amount of future benefit that employees have earned in the current and prior periods, discounting that amount and deducting the fair value of any plan assets. For defined benefit retirement benefit plans, the cost of providing benefit is recognized based on actuarial calculations. Defined benefit costs (including service cost, net interest and remeasurement) under the defined benefit retirement benefit plans are determined using the Projected Unit Credit Method. Service cost (including current service cost), and net interest on the net defined benefit liability (asset) are recognized as employee benefits expense in profit or loss in the period they occur. Remeasurement, comprising actuarial gains and losses and the return on plan assets (excluding 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 will not be reclassified to profit or loss.

(p) Income Taxes

Income tax expense comprises current and deferred taxes. It is recognized in profit or loss except to the extent that it relates to a business combination, or items recognized directly in equity or in other comprehensive income.

1. Current tax

Current taxes comprise the expected tax payable or receivable on the taxable income or losses for the year and any adjustments to tax payable or receivable in respect of previous years. It is measured using tax rates enacted or substantively enacted tax rate at the reporting date.

2. Deferred tax

Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the carrying amounts of existing assets and liabilities in the financial statements and their respective tax bases, and operating loss and tax credit carry-forwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realized; such reductions are reversed when the probability of future taxable profits improves.

(q) Business Combinations

Acquisitions of businesses are accounted for using the acquisition method. Acquisition-related costs are generally recognized in profit or loss as incurred. Goodwill is measured as the excess of the sum of the consideration transferred, the amount of any non-controlling interests in the

acquiree, and the fair value of the acquirer's previously held equity interest in the acquiree over the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed. Non-controlling interests are initially measured at the non-controlling interests' proportionate share of the fair value of the acquiree's identifiable net assets.

Any contingent consideration payable is measured at fair value at the acquisition date. If the contingent consideration is classified as equity, then it is not remeasured and settlement is accounted for within equity. Otherwise, subsequent changes in the fair value of contingent consideration are recognized in profit or loss.

When a business combination is achieved in stages, the Company's previously held equity interest in the acquiree is remeasured to fair value at the acquisition date, and the resulting gain or loss is recognized in profit or loss.

(r) Earnings Per Ordinary Share

Basic earnings per ordinary share is computed using profit or loss attributable to the shareholders and weighted average number of ordinary shares outstanding during the period. Diluted earnings per ordinary share is computed using the weighted average number of ordinary and diluted ordinary equivalent shares outstanding during the period. Ordinary equivalent shares are ordinary shares that are contingently issuable upon the vesting of unvested restricted share units (RSUs) and employee stock options granted to employees.

Basic and diluted earnings per ordinary share have been calculated as follows:

		Year Ended December 31,		
		2018	2019	2020
Profits (loss) attributable to Himax Technologies, Inc. stockholders (in thousands)	$	8,569	(13,614)	47,134
Denominator for basic earnings per ordinary share:				
Weighted average number of ordinary shares outstanding (in thousands)		345,020	345,101	345,708
Basic earnings (loss) per ordinary share attributable to Himax Technologies, Inc. stockholders	$	0.02	(0.04)	0.14
Basic earnings (loss) per ADS attributable to Himax Technologies,Inc. stockholders[(2)]	$	0.05	(0.08)	0.27

Contingently issuable ordinary shares underlying the unvested RSUs and employee stock options granted to employees are included in the calculation of diluted earnings per ordinary share based on treasury stock method.

	Year Ended December 31,		
	2018	2019	2020
Profits (loss) attributable to Himax Technologies, Inc. stockholders (in thousands)	$ 8,569	(13,614)	47,134
Denominator for diluted earnings per ordinary share:			
Weighted average number of ordinary shares outstanding (in thousands)	345,020	345,101	345,708
Unvested RSUs (in thousands)[1]	49	-	-
Employee stock options (in thousands)[1]	-	-	1,058
	345,069	345,101	346,766
Diluted earnings (loss) per ordinary share attributable to Himax Technologies, Inc. stockholders	$ 0.02	(0.04)	0.14
Diluted earnings (loss) per ADS attributable to Himax Technologies, Inc. stockholders[2]	$ 0.05	(0.08)	0.27

Note (1): Since the Company had net loss for 2019, the unvested RSUs and employee stock options are not being considered with dilutive effect for the year.

Note (2): As the Company's ordinary shares have been quoted on the NASDAQ Global Select Market under the symbol "HIMX" in the form of ADSs and two ordinary shares represent one ADS with effect from August 10, 2009. The number of ADS equivalent outstanding is determined by dividing the number of ordinary shares by two. Therefore, the weighted average number of ADS equivalent outstanding used in basic earnings per ADS for 2018, 2019 and 2020 is 172,510 thousand, 172,550 thousand and 172,854 thousand, respectively. Additionally, the weighted average number of ADS equivalent outstanding used in diluted earnings per ADS for 2018, 2019 and 2020 is 172,534 thousand, 172,550 thousand and 173,383 thousand, respectively. The earnings (loss) per ADS is presented solely for the convenience of the reader and does not represent a measure under IFRS.

(s) Segment Reporting

An operating segment is a component of the Company that engages in business activities from which it may earn revenues and incur expenses. All operating segments' operating results are reviewed regularly by the Company's chief operating decision maker ("CODM") to make decisions about resources to be allocated to the segment and assess its performance, and for which discrete financial information is available.

The Company's CODM has been identified as the Chief Executive Officer, who regularly reviews operating results to make decisions about allocating resources and assessing performance for the Company. Management has determined that the Company has two operating segments: Driver IC and Non-driver products.

The CODM assesses the performance of the operating segments based on segment sales and segment profit and loss. There are no intersegment sales in the segment revenues reported to the CODM. Segment profit and loss is determined on a basis that is consistent with how the Company reports operating income (loss) in its consolidated statements of operations. Segment profit (loss) excludes income taxes and items in non-operating income (loss).

The Company does not report segment asset information to the Company's CODM. Consequently, no asset information by segment is presented.

(t) Noncontrolling Interests

Noncontrolling interests are classified in the consolidated statements of profit or loss as part of profit (loss) for the period and the accumulated amount of noncontrolling interests as part of equity in the consolidated statements of financial position. If a change in ownership of a consolidated subsidiary results in loss of control and deconsolidation, any retained ownership interests are re-measured with the gain or loss reported in net earnings.

(u) Use of Judgments and Estimates

The preparation of the consolidated financial statements in conformity with IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

Information about critical judgments, estimates and assumptions in applying accounting policies that have the most significant effect on the amounts recognized in the consolidated financial statements is included in the following notes:

1. Valuation of inventory

   Inventories are stated at the lower of cost or net realizable value, and the Company uses judgment and estimate to determine the net realizable value of inventory at the end of each reporting period.

   Due to the rapid technological changes, the Company estimates the net realizable value of inventory for obsolescence and unmarketable items at the end of reporting period and then writes down the cost of inventories to net realizable value. The net realizable value of the inventory is mainly determined based on assumptions of future demand within a specific time horizon.

2. Impairment of non-financial assets other than goodwill

   In the process of evaluating the potential impairment of non-financial assets other than goodwill, the Company is required to make subjective judgments in determining the independent cash flows, useful lives, expected future revenue and expenses related to the specific asset groups. Any changes in these estimates based on changed economic conditions or business strategies could result in significant impairment charges or reversal in future years.

3. Recognition of deferred tax assets

Deferred tax assets are recognized to the extent that it is probable that future taxable profits will be available against which those deferred tax assets can be utilized. Assessment of the realization of the deferred tax assets requires the Company's subjective judgment and estimate, including the future revenue growth and profitability, the sources of taxable income, the amount of tax credits that can be utilized and feasible tax planning strategies. Changes in the economic environment, the industry trends and relevant laws and regulations may result in adjustments to the deferred tax assets.

4. Impairment of goodwill

The assessment of impairment of goodwill requires the Company to make subjective judgment to determine the identified CGU, allocate the goodwill to relevant CGU and estimate the recoverable amount of relevant CGU. In the process of estimating the recoverable amount of relevant CGU, the Company is required to make subjective judgments in determining the discounted rate, the terminal growth rate, the independent cash flows, useful lives, expected future revenue and expenses related to the CGU.

Note 5. Acquisition

(a) Acquisition of nano 3D mastering related business

On February 21, 2018, the Company, through Himax IGI Precision Ltd., completed the acquisition of nano 3D mastering related business with total cash consideration approximating $1,400 thousand, and half of which, $700 thousand, was paid in 2019.

The advanced nano 3D manufacturing masters are primarily used in imprinting or stamping replication process to fabricate devices such as diffractive optical element (DOE), diffuser, collimator lens and micro lens array. The acquisition brings the Company the very upstream master tooling capability to supplement its world leading wafer level optics (WLO) technology, which is critical in its efforts to offer 3D sensing total solutions.

Acquired assets were valued at estimates of their current fair values. Property, plant and equipment, other intangible asset and prepaid maintenance acquired were $700 thousand, $400 thousand and $300 thousand, respectively.

(b) Acquisition of Emza Visual Sense Ltd.

Emza Visual Sense Ltd.("Emza") was purchased in April 2017 with an original investment amount of $2,230 thousand together with an additional investment amount of $270 thousand through conversion of equal amount of debts which occurred in 2016. On June 28, 2018, the Company completed the acquisition of all the outstanding common shares of Emza with total cash consideration approximating $6,371 thousand, including $400 thousand holdback was paid in 2019. The Company's previously held equity interests in Emza was re-measured at fair value, which was determined with the assistance of an independent appraiser using the equity value allocation method at acquisition date. The re-measurement gain on the previously

held equity interests in Emza was $1,662 thousand which is included in "other income" in the consolidated statements of profit or loss.

Emza is an Israeli company dedicated to the development of visual sensors that include proprietary machine-vision algorithms and specific architectures that enable always-on visual sensing capabilities, achieving improvement in power consumption, price and form factor. This acquisition would allow the Company to fully leverage the synergy into producing visual sensors that integrate camera, hardware and algorithms and operate at unprecedented power, cost and size.

The results of Emza's operations have been included in the Company's consolidated financial statements since that date. The amounts of Emza's revenues and losses included in the consolidated statements of profit or loss from the acquisition date to the period ended December 31, 2018 were $72 thousand and $2,858 thousand, respectively. If the acquisition had occurred on January 1, 2018, management estimates that consolidated revenue would have been $723,605 thousand (unaudited), and consolidated profit for the year would have been $7,291 thousand (unaudited). In determining these amounts, management has assumed that the fair value adjustments that arose on the date of acquisition would have been the same if the acquisition had occurred on January 1, 2018.

The Company incurred acquisition-related costs of $195 thousand on legal fees and due diligence costs. These costs have been included in "general and administrative expenses" in the consolidated statements of profit or loss.

The following table summarizes the amounts of estimated fair value of the assets acquired and liabilities assumed at the date of acquisition.

		Fair value
		(in thousands)
Recognized amounts of identifiable assets acquired and liabilities assumed:		
Cash	$	170
Current assets, other than cash		335
Property, plant and equipment		27
Deferred tax assets		1,445
Other intangible assets		8,545
Other current liabilities		(2,706)
Deferred tax liabilities		(1,445)
Total identifiable net assets acquired	**$**	**6,371**

Acquired tangible assets were valued at estimates of their current fair values. The valuation of acquired intangible assets consisting of the core and developed technology $6,282 thousand and trademark $1,800 thousand were determined based on management's estimates and consultation with an independent appraiser. The multi-period excess earnings method was used in applying the income approach to determine the fair value of acquired intangible assets. Significant assumptions inherent in the valuation method for acquired intangible assets are employed and included, but are not limited to, prospective financial information, terminal value, and discount rates. When performing the multi-period excess earnings method for acquired intangible assets, the Company incorporates the use of projected financial information and a discount rate that are developed using market participant based assumptions. The cash-flow projections are based on seven-year financial forecasts developed by management that include revenue projections, capital spending trends, and investment in working capital to support anticipated revenue growth, which are regularly reviewed by management. The selected discount rate considers the risk and nature of the comparative companies and the rates of return market participants would require to investing their capital in reporting units.

The acquired intangible assets, the core and developed technology, will be amortized based on a weighted-average useful life of approximately 7 years. However, the acquired trademark is intangible asset with an indefinite useful life.

(c) Acquisition of CM Visual Technology Corp.

On October 30, 2020, the Company infused cash of $6,680 thousand into CMVT in exchange for 66.71% of the outstanding common shares of CMVT. Acquisition-related costs, which were charged to expense as incurred, were insignificant.

CMVT is a Taiwan company dedicated to the development and production of Omniwide film for display with its own technology: ultra view switching. As a result of the acquisition, the Company is expected to further strengthen the Company's competitiveness in the displays with the addition of technology resources.

The results of CMVT's operations have been included in the Company's consolidated financial statements since that date. The amounts of CMVT's revenues and losses included in the consolidated statements of profit or loss from the acquisition date to the period ended December 31, 2020 were $1,231 thousand and $214 thousand, respectively. If the acquisition had occurred on January 1, 2020, management estimates that consolidated revenue would have been $891,038 thousand (unaudited), and consolidated profit for the year would have been $46,361 thousand (unaudited). In determining these amounts, management has assumed that the fair value adjustments that arose on the date of acquisition would have been the same if the acquisition had occurred on January 1, 2020.

The following table summarizes the amounts of estimated fair value of the assets acquired and liabilities assumed at the date of acquisition.

		Fair value
		(in thousands)
Recognized amounts of identifiable assets acquired and liabilities assumed:		
Cash	$	7,982
Current assets, other than cash		2,602
Property, plant and equipment		1,906
Other intangible assets		704
Other current liabilities		(3,181)
Total identifiable net assets acquired		**10,013**
Noncontrolling interests		(3,333)
Total consideration paid	**$**	**6,680**

Acquired assets were valued at estimates of their current fair values based on management's estimates and consultation with an independent appraiser.

Note 6. Cash and Cash Equivalents

		December 31, 2019	December 31, 2020
		(in thousands)	
Cash, demand deposits and checking accounts	$	95,525	178,938
Time deposits with less than three months maturity date		5,530	6,000
	$	**101,055**	**184,938**

Refer to Note 23 and Note 24 for the disclosure of credit risk, currency risk and sensitivity analysis of the financial assets and liabilities of the Company.

As of December 31, 2019 and 2020, no cash and cash equivalents were pledged with banks as collaterals.

Note 7. Financial Assets at Amortized Cost

	December 31, 2019	December 31, 2020
	(in thousands)	
Time deposit with original maturities more than three months	**$ 11,049**	**8,682**

The financial assets at amortized cost are in China Yuan (CNY) and US dollar denominated time deposits with original maturities of more than three months and the expected holding period as of December 31, 2019 and 2020 is due in one year or less.

As of December 31, 2019 and 2020, no financial assets at amortized cost were pledged with banks as collaterals.

Note 8. Financial Assets at Fair Value Through Profit or Loss

Following is a summary of financial assets at fair value through profit or loss as of December 31, 2019 and 2020:

	December 31, 2019	December 31, 2020
	(in thousands)	
Money market fund	$ -	7,799
Equity securities-unlisted company	13,500	13,966
	$ 13,500	**21,765**
Current	$ -	7,799
Non-current	13,500	13,966
	$ 13,500	**21,765**

Net gain of $2,032 thousand, $3,732 thousand and $472 thousand was recognized under changes in fair value of financial assets at fair value through profit or loss in the consolidated statement of profit or loss for the years ended December 31, 2018, 2019 and 2020, respectively.

As of December 31, 2019 and 2020, no financial assets at fair value through profit or loss were pledged with banks as collaterals.

Note 9. Financial Assets at Fair Value Through Other Comprehensive Income

The equity securities are held for long-term strategies and therefore are accounted for as FVTOCI. Capital reduction from equity security investments designated as at FVTOCI recognized for the years ended December 31, 2018, 2019 and 2020, were $55 thousand, $47 thousand and $32 thousand, respectively, all related to investments held at the end of the reporting period.

As of December 31, 2019 and 2020, no financial assets at fair value through other comprehensive income were pledged with banks as collaterals.

Note10. Financial Liability at Amortized Cost

During 2013, Himax Display, Inc., a consolidated subsidiary of the Company, issued redeemable convertible preferred shares to a non-controlling shareholder. The noncontrolling shareholder may, solely at its option, convert the preferred shares at any time into ordinary shares of Himax Display, Inc. on a one to one basis. Additionally, Himax Display, Inc. provided the noncontrolling shareholder with a liquidation preference, redemption feature and a warrant to purchase additional preferred shares of Himax Display, Inc., within one year from the original investment closing date. The warrant expired in October 2014.

The redeemable convertible preferred shares of Himax Display, Inc. are presented as financial liability at amortized cost on the Company's consolidated statements of financial position and subsequently measured using effective interest method. The interest related to financial liability at amortized cost was $234 thousand for the year ended December 31, 2018.

As the noncontrolling shareholder didn't exercise its redemption right before the deadline, the financial liability at amortized cost was transferred to noncontrolling interest in 2019 on the Company's consolidated statements of financial position.

Note 11. Accounts Receivable, net

		December 31, 2019	December 31, 2020
		(in thousands)	
Accounts receivable	$	165,133	243,816
Less: Loss allowance		(190)	(190)
	$	**164,943**	**243,626**

As of December 31, 2019 and 2020, the Company measures the loss allowance for accounts receivable using the simplified approach under IFRS 9 with the lifetime expected credit losses. To measure the expected credit losses, accounts receivable have been grouped based on the days past due, as well as incorporated forward looking information, including relevant industry information. Analysis of expected credit losses which was measured based on the aforementioned method, was as follows:

		December 31, 2019		
		Carrying amount of accounts receivable	Weighted average loss rate	Loss allowance for lifetime expected credit
		(in thousands)		(in thousands)
Not past due	$	162,765	0%	$ -
Past due within 30 days		1,685	0%-0.25%	-
Past due 31-60 days		474	0%-4.16%	-
Past due 61-90 days		-	0%-4.17%	-
Past due 91-120 days		19	0%-20.4%	-
Past due over 121 days		-	100.00%	-
	$	**164,943**		**$ -**

	December 31, 2020		
	Carrying amount of accounts receivable	Weighted average loss rate	Loss allowance for lifetime expected credit
	(in thousands)		(in thousands)
Not past due	$ 243,208	0%	$ -
Past due within 30 days	36	0%	-
Past due 31-60 days	382	0%	-
Past due 61-90 days	-	0%	-
Past due 91-120 days	-	0%-6.32%	-
Past due over 121 days	-	100.00%	-
	$ 243,626		**$ -**

As of December 31, 2019, the Company recognized a loss allowance amounting to $190 thousand for accounts receivable with gross carrying amount of $190 thousand due to there was objective evidence indicating that it could not reasonably be expected those receivables would be able to be recovered. There were no changes as of December 31, 2020.

The activity in the loss allowance is as follows:

Loss Allowance

Period	Balance at beginning of year	Charges to earnings	Amounts utilized / write-offs	Balance at end of year
		(in thousands)		
Year 2018	$ -	290	-	290
Year 2019	$ 290	67	(167)	190
Year 2020	$ 190	-	-	190

Note 12. Inventories

	December 31, 2019	December 31, 2020
	(in thousands)	
Finished goods	$ 41,310	23,990
Work in process	72,070	63,025
Raw materials	29,729	21,346
Supplies	665	346
	$ 143,774	**108,707**

The amounts of inventories that were charged to cost of revenues were $536,966 thousand, $508,469 thousand and $654,582 thousand, respectively, and the charges for inventories written down to net realizable value amounted to $17,724 thousand, $25,447 thousand and $11,919 thousand, for the years ended December 31, 2018, 2019 and 2020, respectively, which were also included in cost of revenues.

As of December 31, 2019 and 2020, none of the Company's inventories was pledged as collateral.

Note 13. Equity Method Investments

Associates consisted of the following:

Name of Associate	Principal Activities	Place of Incorporation and Operation	December 31,2019 Carrying amount	December 31,2019 Holding %	December 31,2020 Carrying amount	December 31,2020 Holding %
			(in thousands)		(in thousands)	
Ganzin Technology Corp.	Eye tracking chip and module	Taipei, Taiwan	$ 1,156	49.35	$ 577	45.64
Iris Optronics Co., Ltd.	E-paper manufacturing and sales	Tainan, Taiwan	41	1.25	61	1.25
Viewsil Microelectronics (Kunshan) Limited	IC design and sales	Kunshan, China	2,549	49.00	2,621	49.00
Guangzhou Pixtalks Information Technology Co., Ltd.	3D structured light module	Guangzhou, China	-	-	724	25.00
			$ 3,746		**$ 3,983**	

Guangzhou Pixtalks Information Technology Co., Ltd. was purchased with original investment amount of $758 thousand in November 2020.

There is no individually significant associate for the Company. The following table summarized the amount recognized by the Company at its share of those associates:

	For the year ended December 31, 2018	2019	2020
		(in thousands)	
The Company's share of losses of associates	$ **(1,095)**	**(477)**	**(638)**
The Company's share of other comprehensive income of associates	$ **(68)**	**26**	**58**
The Company's share of total comprehensive income of associates	$ **(1,163)**	**(451)**	**(580)**

As of December 31, 2019 and 2020, none of the Company's equity method investments was pledged as collateral.

Note 14. Other Intangible Assets

	Technology	Software	Others	Total
		(in thousands)		
Cost				
Balance at January 1, 2019	$ 13,171	5,194	2,750	21,115
Additions	-	152	-	152
Disposals	-	-	-	-
Effect of exchange rate changes	-	(4)	39	35
Balance at December 31, 2019	13,171	5,342	2,789	21,302
Acquisitions through business combinations	-	41	663	704
Additions	-	87	-	87
Transfer from other current assets	-	21	-	21
Disposals	-	-	-	-
Effect of exchange rate changes	-	15	(8)	7
Balance at December 31, 2020	**$ 13,171**	**5,506**	**3,444**	**22,121**
Accumulated Amortization				
Balance at January 1, 2019	$ 6,189	4,017	131	10,337
Amortization for the year	1,492	602	119	2,213
Disposals	-	-	-	-
Effect of exchange rate changes	-	(4)	6	2
Balance at December 31, 2019	7,681	4,615	256	12,552
Amortization for the year	1,105	464	154	1,723
Transfer from other current assets	-	-	-	-
Disposals	-	-	-	-
Effect of exchange rate changes	-	13	(43)	(30)
Balance at December 31, 2020	**$ 8,786**	**5,092**	**367**	**14,245**
Carrying amounts				
At December 31, 2019	**$ 5,490**	**727**	**2,533**	**8,750**
At December 31, 2020	**$ 4,385**	**414**	**3,077**	**7,876**

Others in other intangible assets includes the acquired trademark $1,800 thousand with an indefinite useful life.

Other intangible assets were amortized on a straight-line basis over their estimated useful lives as follows:

Technology	7 years
Software	2-10 years
Others (except for trademark)	7-15 years

Note 15. Property, Plant and Equipment

(a)

	Land	Building and improvements	Machinery	Research and development equipment	Office furniture and equipment	Others	Prepayments for purchase of equipment and construction in progress	Total
				(in thousands)				
Cost								
Balance at January 1, 2019	$ 14,328	31,971	70,468	45,957	12,964	32,380	37,891	245,959
Adjustments on initial Application of IFRS 16	-	-	-	-	-	5,899	-	5,899
Additions	27,500	6,502	3,909	1,069	884	4,280	25	44,169
Transfers	-	36,884	-	-	468	-	(37,352)	-
Disposals	-	-	(51)	(2,388)	(638)	(3,273)	-	(6,350)
Effect of exchange rate changes	-	-	-	-	(12)	(38)	-	(50)
Balance at December 31, 2019	41,828	75,357	74,326	44,638	13,666	39,248	564	289,627
Acquisitions through business combinations	-	-	1,476	189	19	222	-	1,906
Additions	-	46	1,031	1,189	857	9,952	840	13,915
Transfers	-	-	386	178	-	(706)	(552)	(694)
Disposals	-	-	(2,350)	(730)	-	(15,720)	-	(18,800)
Effect of exchange rate changes	-	-	87	23	115	252	-	477
Balance at December 31, 2020	**$ 41,828**	**75,403**	**74,956**	**45,487**	**14,657**	**33,248**	**852**	**286,431**
Accumulated Depreciation								
Balance at January 1, 2019	$ -	16,050	47,548	34,112	10,737	26,445	-	134,892
Depreciation for the year	-	4,074	6,718	4,795	904	5,695	-	22,186
Transfers	-	-	-	-	-	-	-	-
Disposals	-	-	(51)	(2,388)	(638)	(3,265)	-	(6,342)
Effect of exchange rate changes	-	-	-	-	(17)	(30)	-	(47)
Balance at December 31, 2019	-	20,124	54,215	36,519	10,986	28,845	-	150,689
Depreciation for the year	-	4,523	5,644	3,469	994	7,243	-	21,873
Transfers	-	-	(1)	-	-	102	-	101
Disposals	-	-	(2,350)	(725)	-	(15,604)	-	(18,679)
Effect of exchange rate changes	-	-	68	20	96	189	-	373
Balance at December 31, 2020	**$ -**	**24,647**	**57,576**	**39,283**	**12,076**	**20,775**	**-**	**154,357**
Carrying amounts								
At December 31, 2019	**$ 41,828**	**55,233**	**20,111**	**8,119**	**2,680**	**10,403**	**564**	**138,938**
At December 31, 2020	**$ 41,828**	**50,756**	**17,380**	**6,204**	**2,581**	**12,473**	**852**	**132,074**

Others in property, plant and equipment includes mold equipment, leasehold improvements, right-of-use assets and other equipment.

The Company incurred non-cash capital expenditures of $5,524 thousand, $1,999 thousand and $345 thousand in the years ended December 31, 2018, 2019 and 2020.

The above items of property, plant and equipment, except certain machinery and equipment for specific project depreciated on Fixed-Percentage-on-Declining-Base Method basis mentioned in Note 4(i), are depreciated on a straight-line basis over their estimated useful lives as follows:

Buildings	25 years
Building improvements	4-16 years
Machinery	4-10 years
Research and development equipment	2-6 years
Office furniture and equipment	3-8 years
Others	2-15 years

For the years ended December 31, 2018, 2019 and 2020, the Company did not recognize any impairment loss on property, plant and equipment.

Information on property, plant and equipment that were pledged to bank as collateral is provided in Note 27.

(b) Lease Arrangements

(i) Right-of-use assets

The Company recognized additional $5,899 thousand of right-of-use assets and $5,899 thousand of lease liabilities as at January 1, 2019. Addition to right-of use assets during 2019 and 2020 were $246 thousand and $8,474 thousand, respectively. The carrying amounts of right-of use assets for offices and buildings lease included in Others in property, plant and equipment was $4,115 thousand and $10,020 thousand as of December 31, 2019 and 2020, respectively. Depreciation expense of right-of-use assets amounted to $2,018 thousand and $ 2,619 thousand in 2019 and 2020.

(ii) Lease liabilities

		December 31, 2019	**December 31, 2020**
		(in thousands)	
Current portion (classified under other current liabilities)	$	1,432	3,068
Non-current portion (classified under other non-current liabilities)		2,788	7,386
	$	**4,220**	**10,454**

(iii) Additional lease information

	Year ended December 31,	
	2019	2020
	(in thousands)	
Expenses relating to short-term leases	**$ 313**	**258**
Expenses relating to low-value asset leases	**$ 143**	**230**
Expenses relating to variable lease payments not included in the measurement of lease liabilities	**$ 1,631**	**2,018**

The reconciliation of lease liabilities to cash flows arising from financing activities was as follows:

	Year ended December 31,	
	2019	2020
	(in thousands)	
Balance at beginning of year	$ 5,899	4,220
Change from financing activities:		
Payment of lease liabilities	(1,957)	(2,608)
Total change from financing activities	(1,957)	(2,608)
Other changes:		
New lease	246	8,474
Interest expense	112	155
Interest paid	(112)	(155)
Effect of exchange rate changes	32	368
Total liability-related other changes	278	8,842
Balance at end of year	**$ 4,220**	**10,454**

Note 16. Other Current Liabilities

	December 31, 2019	December 31, 2020
	(in thousands)	
Accrued payroll and related expenses	$ 9,522	10,681
Accrued mask, mold fees and other expenses for RD	9,263	11,503
Payable for purchases of building and equipment	2,298	1,599
Accrued software maintenance	2,275	4,531
Allowance for sales discounts	896	809
Lease liabilities	1,432	3,068
Accrued insurance, welfare expenses, professional fee	12,520	13,920
	$ 38,206	**46,111**

The activity in the sales discounts is as follows:

Allowance for sales discounts

Period		Balance at beginning of year	Charges to earnings	Amounts utilized	Balance at end of year
			(in thousands)		
Year 2018	$	1,203	1,855	(2,564)	494
Year 2019	$	494	6,448	(6,046)	896
Year 2020	$	896	8,791	(8,878)	809

Note 17. Short-Term Borrowings

		December 31, 2019	December 31, 2020
		(in thousands)	
Unsecured borrowings	**$**	**57,339**	**-**
Secured borrowings	**$**	**164,000**	**104,000**
Unused credit lines	**$**	**242,476**	**280,921**
Interest rate-unsecured borrowings		**1.04403%~ 2.96453%**	**-**
Interest rate-secured borrowings		**0.35%~0.78%**	**0.33%~0.40%**

As of December 31, 2019 and 2020, cash and time deposits totaling $164,000 thousand and $104,000 thousand are pledged as collateral, respectively.

As of December 31, 2020, unused credit lines will expire between February 2021 and November 2021. Among the unused credit lines, $21,053 thousand will expire before the end of March 2021, and $193,000 thousand belonging to the parent company needs to be secured with equal amount of cash and time deposits when borrowing money from banks.

The reconciliation of borrowings to cash flows arising from financing activities was as follows:

		Unsecured borrowings	Secured borrowings
		(in thousands)	
January 1, 2019	$	20,000	164,000
Change from financing activities:			
Proceeds from borrowings		244,224	158,000
Repayments of borrowings		(207,006)	(158,000)
Total changes from financing activities		37,128	-
Other changes:			
Effect of exchange rate changes		121	-
Total liability-related other changes		121	-
December 31, 2019		57,339	164,000
Change from financing activities:			
Proceeds from borrowings		208,137	278,000
Repayments of borrowings		(265,355)	(338,000)
Total changes from financing activities		(57,218)	(60,000)
Other changes:			
Effect of exchange rate changes		(121)	-
Total liability-related other changes		(121)	-
December 31, 2020	**$**	**-**	**104,000**

Note 18. Long-Term Borrowings

		December 31, 2020
		(in thousands)
Unsecured borrowings	$	58,500
Less: current portion		(6,000)
Total	**$**	**52,500**
Unused long-term credit lines	**$**	**40,000**
Interest rate		**0.68819%~ 0.92112%**
Duration		**2020/8/4~ 2030/9/2**

The Company entered into unsecured borrowings with Chang Hwa Bank, in the amount of $40,000 thousand on August 4, 2020 and $20,000 thousand on September 2, 2020, respectively, with a term of ten years. Funding from long-term unsecured borrowings was used to repay the existing debts of financial institutions and broaden the Company's working capital.

As of December 31, 2020, for enhancing the guaranty, land and building and improvements totaling $71,116 thousand are pledged as collateral. Please refer to Note 27.

The reconciliation of borrowings to cash flows arising from financing activities was as follows:

		Long-Term borrowings
		(in thousands)
January 1, 2020	$	-
Change from financing activities:		
Proceeds from borrowings		60,000
Repayments of borrowings		(1,500)
Total changes from financing activities		58,500
Other changes:		
Effect of exchange rate changes		-
Total liability-related other changes		-
December 31, 2020	**$**	**58,500**

Note 19. Employee benefits

1. Defined benefit plans

Pursuant to the ROC Labor Standards Law, the Company has established a defined benefit pension plan covering full-time employees in the ROC that provides retirement benefits to retiring employees based on years of service and the average salary for the six-month period before the employee's retirement.

Reconciliations of defined benefit obligation at present value and plan asset at fair value are as follows:

		December 31, 2019	December 31, 2020
		(in thousands)	
Present value of the defined benefit obligations	$	3,142	3,562
Fair value of plan assets		(3,730)	(3,952)
	$	**(588)**	**(390)**
Net defined benefit liabilities		50	47
Prepaid pension costs		(638)	(437)
	$	**(588)**	**(390)**

(i) Plan assets

The Fund is administered by a pension fund monitoring committee (the "Committee") and is deposited in the Committee's name in the Bank of Taiwan. Under the ROC Labor Standards Law, the minimum return on the plan assets should not be lower than the average interest rate on two-year time deposits published by the local banks. As of December 31, 2020, the Funds deposited in the Committee's name in the Bank of Taiwan amounted to $3,952 thousand.

(ii) Movements in present value of the defined benefit obligations

		Year ended December 31,	
		2019	2020
		(in thousands)	
Balance at beginning of year	$	3,184	3,142
Service costs		26	6
Interest expense		121	27
Remeasurements loss (gain):			
Actuarial loss (gain) arising from:			
-Changes in demographic assumptions		2	91
-Experience adjustment		(149)	56
-Change in financial assumptions		53	196
Refund of overfunding		(18)	-
Effect of changes in exchange rates		(77)	44
Balance at end of year	**$**	**3,142**	**3,562**

(iii) Movements in the fair value of plan assets

		Year ended December 31,	
		2019	2020
		(in thousands)	
Balance at beginning of year	$	3,565	3,730
Interest income		140	31
Remeasurements gain (loss):			
-Return on plan assets excluding interest income		120	129
Contributions paid by the employer		56	15
Refund of overfunding		(70)	-
Effect of changes in exchange rate		(81)	47
Balance at end of year	**$**	**3,730**	**3,952**

(iv) Expenses recognized in profit or loss

		Year ended December 31,		
		2018	2019	2020
			(in thousands)	
Current service costs	$	20	26	6
Interest expense (income)		19	(19)	(4)
	$	**39**	**7**	**2**
Cost of revenues	$	14	6	6
Research and development		18	1	(5)
General and administrative		4	-	1
Sales and marketing		3	-	-
	$	**39**	**7**	**2**

(v) Remeasurement of net defined benefit liability recognized in other comprehensive income

		Year ended December 31,	
		2019	2020
		(in thousands)	
Balance at beginning of year	$	129	(60)
Recognized during the period		(189)	176
Balance at end of year	**$**	**(60)**	**116**

(vi) Actuarial assumptions

The principal actuarial assumptions were as follows:

	December 31, 2019	December 31, 2020
Discount rate	0.87%-0.88%	0.42%
Rate of increase in compensation levels	3.00%	3.00%

The Company expects to make contribution of $20 thousand to the defined benefit plans in the next year starting from January 1, 2021.

As at December 31, 2020, the weighted average duration of the defined benefits obligation was between 18 years to 19 years.

(vii) Sensitivity analysis

Reasonably possible changes at December 31, 2019 and 2020 to one of the relevant actuarial assumptions, holding other assumptions constant, would have affected the defined benefit obligation by the amounts shown below.

	December 31, 2019		December 31, 2020	
	+0.5%	-0.5%	+0.5%	-0.5%
	(in thousands)			
Discount rate	(272)	302	(306)	339
Rate of increase in compensation levels	294	(268)	328	(300)

2. Defined contribution plans

Beginning July 1, 2005, pursuant to the newly effective ROC Labor Pension Act, the Company is required to make a monthly contribution for full-time employees in the ROC that elected to participate in the Defined Contribution Plan at a rate no less than 6% of the employee's monthly wages to the employees' individual pension fund accounts at the ROC Bureau of Labor Insurance. Expenses recognized in 2018, 2019 and 2020, based on the contribution called for were $3,527 thousand, $3,316 thousand and $3,330 thousand, respectively.

The Company established a defined contribution plan in the United States that qualifies under Section 401(k) of the Internal Revenue Code. This plan covers substantially all employees who meet the service requirement. The Company's contribution to the plan may be made at the discretion of the board of directors. As now, no contributions have been made by the Company to the plan.

All PRC employees participate in employee social security plans, including pension and other welfare benefits, which are organized and administered by governmental authorities. The Company has no other substantial commitments to employees. The premiums and welfare benefit contributions that should be borne by the Company are calculated in accordance with relevant PRC regulations, and are paid to the labor and social welfare authorities. Expenses recognized based on this plan were $1,655 thousand, $1,489 thousand and $707 thousand for the years ended December 31, 2018, 2019 and 2020, respectively.

Other foreign subsidiaries recognized pension expenses of $253 thousand, $434 thousand and $497 thousand for the years ended December 31, 2018, 2019 and 2020, respectively, for the defined contribution plans based on their respective local government regulations.

Note 20. Share-Based Compensation

The amounts of share-based compensation expenses included in applicable costs of sales and expense categories and related tax effects are summarized as follows:

	Year ended December 31,		
	2018	2019	2020
		(in thousands)	
Cost of revenues	$ 90	9	87
Research and development	3,165	339	4,467
General and administrative	387	50	368
Sales and marketing	544	59	603
Total compensation recognized in income	**$ 4,186**	**457**	**5,525**
Income tax benefit	**$ 894**	**89**	**1,176**

(a) Long-term Incentive Plan

(i) Restricted share Units (RSUs)

On September 7, 2011, the Company's shareholders approved a long-term incentive plan. The amended and restated plan was amended and restated by extending its duration to September 6, 2022, which was approved by the Company's shareholders at the annual general meeting held on August 28, 2019. The plan permits the grants of options or RSUs to the Company's employees, directors and service providers where each unit of RSU represents two ordinary shares of the Company.

On September 25, 2015, the Company's compensation committee made grants of 597,596 RSUs to the Company's employees. The vesting schedule for the RSUs is as follows: 94.15% of the RSUs grant vested immediately on the grant date which was settled by cash amounting to $4,456 thousand, a subsequent 1.95% will vest on each of September 30, 2016, 2017 and 2018 which will be settled by the Company's ordinary shares, subject to certain forfeiture events.

On September 28, 2016, the Company's compensation committee made grants of 1,208,785 RSUs to the Company's employees. The vesting schedule for the RSUs is as follows: 91.93% of the RSUs grant vested immediately on the grant date which was settled by cash amounting to $9,223 thousand, a subsequent 2.69% will vest on each of September 30, 2017, 2018 and 2019 which will be settled by the Company's ordinary shares, subject to certain forfeiture events.

On September 29, 2017, the Company's compensation committee made grants of 580,235 RSUs to the Company's employees. The vesting schedule for the RSUs is as follows: 96.91% of the RSUs grant vested immediately on the grant date which was settled by cash amounting to $6,147 thousand, a subsequent 1.03% will vest on each of September 30, 2018, 2019 and 2020 which will be settled by the Company's ordinary shares, subject to certain forfeiture events.

On September 26, 2018, the Company's compensation committee made grants of 676,273 RSUs to the Company's employees. The vesting schedule for the RSUs is as follows: 97.15% of the RSUs grant vested immediately on the grant date which was settled by cash amounting to $3,778 thousand, a subsequent 0.95% will vest on each of September 30, 2019, 2020 and 2021 which will be settled by the Company's ordinary shares, subject to certain forfeiture events.

On September 28, 2020, the Company's compensation committee made grants of 1,402,714 RSUs to the Company's employees. The vesting schedule for the RSUs is as follows: 98.68% of the RSUs grant vested immediately on the grant date which was settled by cash amounting to $4,762 thousand, a subsequent 0.44% will vest on each of September 30, 2021, 2022 and 2023 which will be settled by the Company's ordinary shares, subject to certain forfeiture events.

The amount of compensation expense from the long-term incentive plan was determined based on the estimated fair value and the market price of ADS (one ADS represents two ordinary shares) underlying the RSUs granted on the date of grant, which were $7.92 per ADS, $8.30 per ADS, $10.93 per ADS, $5.76 per ADS and $3.44 per ADS on September 25, 2015, September 28, 2016, September 29, 2017, September 26, 2018 and September 28, 2020, respectively.

RSUs activity under the long-term incentive plan during the periods indicated is as follows:

	Number of Underlying Shares for RSUs		Weighted Average Grant Date Fair Value
Balance at January 1, 2018	92,600	$	8.77
Granted	676,273		5.76
Vested	(698,427)		5.92
Forfeited	(10,108)		8.55
Balance at December 31, 2018	60,338		7.98
Vested	(38,878)		8.29
Forfeited	(2,967)		7.98
Balance at December 31, 2019	18,493		7.34
Granted	1,402,714		3.44
Vested	(1,392,355)		3.47
Forfeited	(5,963)		6.57
Balance at December 31, 2020	**22,889**		3.88

As of December 31, 2020, the total compensation cost related to the unvested RSUs not yet recognized was $89 thousand. The weighted-average period over which it is expected to be recognized is 2.37 years.

In 2018, 2019 and 2020, the Company settled RSUs release with shares buyback of 82,814 shares, 77,756 shares and 16,302 shares, respectively.

The allocation of compensation expenses and related tax effects from the RSUs granted to employees under the long-term incentive plan are summarized as follows:

	Year ended December 31,		
	2018	2019	2020
		(in thousands)	
Cost of revenues	$ 56	-	70
Research and development	3,104	86	3,924
General and administrative	373	26	319
Sales and marketing	538	19	520
Total compensation recognized in income	**$ 4,071**	**131**	**4,833**
Income tax benefit	**$ 894**	**30**	**1,044**

(ii) Employee stock options

On September 23, 2019, the Company's compensation committee approved a plan to grant stock options, the 2019 plan, to certain employees. The 2019 plan authorizes grants to purchase up to 3,000,000 units ADS, representing 6,000,000 shares of the Company's ordinary share. 2,226,690 units of stock option to purchase 2,226,690 units ADS were grant to certain employees at an exercise price of $2.27 on September 30, 2019.

The 2019 plan has two years contractual life and one year vesting period. Based on the vesting schedule, 50% of the options vest half year after the date of grant and 50% of the options vest one year after the date of grant. The Company recognized compensation expenses of $326 thousand and $570 thousand in 2019 and 2020, respectively. Such compensation expense was recorded as cost of revenues, sales and marketing expenses, general and administrative expenses and research and development expenses in the consolidated statements of profit or loss. Income tax benefits of $59 thousand and $103 thousand are realized in the consolidated statements of profit or loss for employee stock options for the year ended December 31, 2019 and 2020, respectively.

During 2020, 114,500 units, 39,000 units and 10,000 units of stock option to purchase 114,500 units, 39,000 units and 10,000 units ADS were grant to certain employees at an exercise price of $2.74, $3.9 and $3.35 on March 31, 2020, August 11, 2020 and September 25, 2020, respectively. The options granted in 2020 were fully vested on October1, 2020. The Company recognized compensation expenses of $122 thousand and recorded income tax benefits of $29 thousand for employee stock options in the consolidated statements of profit or loss for the year ended December 31, 2020.

The calculated value of each option award is estimated on the date of grant using the Black-Scholes option-pricing model that used the weighted average assumptions in the following table. The Company uses the simplified method to estimate the expected term of the options as it does not have sufficient historical share option exercise experience and the exercise data relating to employees of other companies is not easily obtainable. The risk-free rates for the expected term of the options are based on the interest rates of 1 years and 1.5 years U.S. Treasury yield at the time of grant.

	2019 plan
Valuation assumptions:	
Expected dividend yield	3.5%
Expected volatility	51.96%-57.79%
Expected term (years)	1-1.5
Risk-free interest rate	1.69%-1.75%

Stock option activity during the periods indicated is as follows:

	Number of Units	Weighted average exercise price	Weighted average remaining contractual term
Granted	2,226,690	$ 2.27	1.75
Exercised	-	-	
Forfeited	-	-	
Balance at December 31, 2019	2,226,690	2.27	1.5
Granted	163,500	3.05	0.88
Exercised	(1,574,869)	2.32	
Forfeited	(236,853)	2.30	
Balance at December 31, 2020	**578,468**	2.36	0.54
Exercisable at December 31, 2020	**578,468**	2.36	0.54

(b) Employee stock options

(i) On January 1, 2016, board of directors of Himax Imaging, Inc. approved a plan to grant stock options, the 2016 plan, to certain employees. The 2016 plan authorizes grants to purchase up to 1,760,000 shares of Imaging Taiwan' issued ordinary shares held by Himax Imaging, Inc. The exercise price was NT$30 (US$0.9139). Himax Taiwan obtained all Imaging Taiwan' issued ordinary shares previously held by Himax Imaging, Inc. in March, 2017, in a re-organization of entities under common control, whereby Himax Taiwan assumed the obligation to sell Imaging Taiwan' ordinary shares once employees exercised the options for the 2016 plan.

The 2016 plan has four years contractual life and three years vesting period. Based on the vesting schedule, 50% of the options vest one and half years after the date of grant and 50% of the options vest three years after the date of grant. Because the exercise price of the options are higher than the estimated fair value of Imaging Taiwan shares at the date of grant, the calculated value of each option award estimated using the Black-Scholes option-pricing model was nil.

The calculated value of option award is estimated on the date of grant using the Black-Scholes option-pricing model that used the weighted average assumptions in the following table. Himax Imaging, Inc. uses the simplified method to estimate the expected term of the options as it does not have sufficient historical share option exercise experience and the exercise data relating to employees of other companies is not easily obtainable. Since Imaging Taiwan' shares are not publicly traded and its shares are rarely traded privately,

expected volatility is computed based on the average historical volatility of similar entities with publicly traded shares. The risk-free rates for the expected term of the option are based on the interest rates of 2 years and 5 years ROC central government bond at the time of grant.

	2016 plan
Valuation assumptions:	
Expected dividend yield	0%
Expected volatility	38.04%
Expected term (years)	3.125
Risk-free interest rate	0.50%

Stock option activity during the periods indicated is as follows:

	Number of shares		Weighted average exercise price	Weighted average remaining contractual term
Balance at January 1, 2018	581,000	$	0.9139	2.0
Granted	-		-	
Exercised	-		-	
Forfeited	(35,000)		0.9139	
Balance at December 31, 2018	546,000		0.9139	1.0
Granted	-		-	
Exercised	-		-	
Forfeited	(25,000)		0.9139	
Expired	(521,000)		0.9139	
Balance at December 31, 2019	-		-	-
Exercisable at December 31, 2019	-		-	

(ii) On January 1, 2016, board of directors of Imaging Taiwan approved a plan to grant stock options, the 2016 plan, to certain employees. This plan authorizes grants to purchase up to 2,040,000 shares of Imaging Taiwan' authorized but unissued ordinary shares. The exercise price was NT$30 (US$0.9139).

The 2016 plan has four years contractual life and three years vesting period. Based on the vesting schedule, 50% of the options vest one and half years after the date of grant and 50% of the options vest three years after the date of grant. Because the exercise price of the options are higher than the estimated fair value of Imaging Taiwan shares at the date of grant, the calculated value of each option award estimated using the Black-Scholes option-pricing model was nil.

The calculated value of each option award is estimated on the date of grant using the Black-Scholes option-pricing model that used the weighted average assumptions in the following table. Imaging Taiwan uses the simplified method to estimate the expected term of the options as it does not have sufficient historical share option exercise

experience and the exercise data relating to employees of other companies is not easily obtainable. Since Imaging Taiwan' shares are not publicly traded and its shares are rarely traded privately, expected volatility is computed based on the average historical volatility of similar entities with publicly traded shares. The risk-free rates for the expected term of the options are based on the interest rates of 2 years and 5 years ROC central government bond at the time of grant.

	2016 plan
Valuation assumptions:	
Expected dividend yield	0%
Expected volatility	38.04%
Expected term (years)	3.125
Risk-free interest rate	0.50%

Stock option activity during the periods indicated is as follows:

	Number of shares	Weighted average exercise price	Weighted average remaining contractual term
Balance at January 1, 2018	1,509,000	$ 0.9139	2.0
Granted	-	-	
Exercised	-	-	
Forfeited	(150,000)	0.9139	
Balance at December 31, 2018	1,359,000	0.9139	1.0
Granted	-	-	
Exercised	-	-	
Forfeited	(209,000)	0.9139	
Expired	(1,135,000)	0.9139	
Balance at December 31, 2019	15,000	0.9139	-
Expired	(15,000)	0.9139	
Balance at December 31, 2020	-	-	-
Exercisable at December 31, 2020	-	-	

(iii) On October 6, 2015, board of directors of Himax Display, Inc. approved a plan to grant stock options, the 2015 plan, to certain employees. This plan authorizes grants to purchase up to 2,528,000 shares of Himax Display, Inc.' authorized but unissued ordinary shares. The exercise price was NT$65 (US$1.986).

The 2015 plan has four years contractual life and three years vesting period. Based on the vesting schedule, 50% of the options vest one and half years after the date of grant and 50% of the options vest three years after the date of grant. The Company recognized compensation expenses of $115 thousand and nil in 2018 and 2019, respectively. Such compensation expense was recorded as cost of revenues, sales and marketing expenses, general and administrative expenses and research and

development expenses in the consolidated statements of profit or loss. There was no income tax benefit realized in the consolidated statements of profit or loss for employee stock options for the years ended December 31, 2018 and 2019.

The calculated value of each option award is estimated on the date of grant using the Black-Scholes option-pricing model that used the weighted average assumptions in the following table. Himax Display, Inc. uses the simplified method to estimate the expected term of the options as it does not have sufficient historical share option exercise experience and the exercise data relating to employees of other companies is not easily obtainable. Since Himax Display, Inc.' shares are not publicly traded and its shares are rarely traded privately, expected volatility is computed based on the average historical volatility of similar entities with publicly traded shares. The risk-free rate for the expected term of the options is based on the interest rates of 2 years and 5 years ROC central government bond at the time of grant.

	2015 plan
Valuation assumptions:	
Expected dividend yield	0%
Expected volatility	33.52%
Expected term (years)	3.125
Risk-free interest rate	0.65%

Stock option activity during the periods indicated is as follows:

	Number of shares	Weighted average exercise price	Weighted average remaining contractual term
Balance at January 1, 2018	1,943,000	$ 1.986	1.75
Granted	-	-	
Exercised	-	-	
Forfeited	(32,000)	1.986	
Balance at December 31, 2018	1,911,000	1.986	0.75
Granted	-	-	
Exercised	-	-	
Forfeited	(22,200)	1.986	
Expired	(1,888,800)	1.986	
Balance at December 31, 2019	-	-	-
Exercisable at December 31, 2019	-	-	

Note 21. Equity

(a) Ordinary Shares

The Company's authorized ordinary shares, with par value of $0.3 per share, were 1,000,000,000 shares at December 31, 2019 and 2020.

The Company's issued and fully paid ordinary shares, with par value of $0.3 per share, were 356,699,482 shares at December 31, 2019 and 2020. The outstanding ordinary shares were 344,368,062 shares and 347,534,102 shares at December 31, 2019 and 2020, respectively. 12,331,420 treasury shares and 9,165,380 treasury shares were held by the Company as of December 31, 2019 and 2020, respectively.

The Company's ordinary shares have been quoted on the NASDAQ Global Select Market under the symbol "HIMX" in the form of ADSs and two ordinary shares represent one ADS with effect from August 10, 2009.

(b) Additional Paid-in Capital

Balance of additional paid-in capital as of December 31, 2019 and 2020 were as follows:

		December 31, 2019	December 31, 2020
		(in thousands)	
From ordinary shares	$	93,341	93,341
From treasury shares		5,025	6,422
From share-based compensation		6,634	7,389
From share of changes in equities of associates		150	141
	$	**105,150**	**107,293**

(c) Earnings distribution

As a holding company, the major asset of the Company is the 100% ownership interest in Himax Taiwan. Dividends received from the Company's subsidiaries in Taiwan, if any, will be subjected to withholding tax under ROC law. The ability of the Company's subsidiaries to pay dividends, repay intercompany loans from the Company or make other distributions to the Company may be restricted by the availability of funds, the terms of various credit arrangements entered into by the Company's subsidiaries, as well as statutory and other legal restrictions. The Company's subsidiaries in Taiwan are generally not permitted to distribute dividends or to make any other distributions to shareholders for any year in which it did not have either earnings or retained earnings (excluding reserve). In addition, before distributing a dividend to shareholders following the end of a fiscal year, a Taiwan company must recover any past losses, pay all outstanding taxes and set aside 10% of its annual net income (less prior years' losses and outstanding taxes) as a legal reserve until the accumulated legal reserve equals its paid-in capital, and may set aside a special reserve.

The accumulated legal and special reserve provided by Himax Taiwan as of December 31, 2019 and 2020 amounted to $79,931 thousand and $79,931 thousand, respectively.

(d) Accumulated other comprehensive income

Changes in accumulated other comprehensive income, net of tax, are as follows:

	Foreign currency translation	Unrealized gains (losses) on securities	Defined benefit pension plans	Accumulated other comprehensive income
		(in thousands)		
Beginning balance, January 1, 2018	$ 583	(37)	(992)	(446)
Exchange differences arising on translation of foreign operations	(334)	-	-	(334)
Changes in fair value of financial assets	-	(869)	-	(869)
Remeasurement of defined benefit pension plans	-	-	1,100	1,100
Ending balance, December 31, 2018	249	(906)	108	(549)
Exchange differences arising on translation of foreign operations	(545)	-	-	(545)
Changes in fair value of financial assets	-	(30)	-	(30)
Remeasurement of defined benefit pension plans	-	-	172	172
Ending balance, December 31, 2019	(296)	(936)	280	(952)
Exchange differences arising on translation of foreign operations	512	-	-	512
Changes in fair value of financial assets	-	67	-	67
Remeasurement of defined benefit pension plans	-	-	(175)	(175)
Ending balance, December 31, 2020	**$ 216**	**(869)**	**105**	**(548)**

(e) Noncontrolling interest

	Year ended December 31,		
	2018	2019	2020
		(in thousands)	
Balance at the beginning of year	$ (1,735)	(4,261)	(1,743)
Equity attributable to non-controlling interests			
Loss for the year	(2,543)	(2,570)	(1,974)
Transfer of financial liability to noncontrolling interests	-	5,071	-
Changes in fair value of financial assets	(26)	(5)	(2)
Remeasurement of defined benefit pension plans	33	17	(1)
Share-based compensation expenses	22	5	8
New shares issued by subsidiaries	(10)	-	8,695
Exchange differences arising on translation of foreign operations	(2)	-	44
Declaration of cash dividends	-	-	(4)
Balance at the end of year	**$ (4,261)**	**(1,743)**	**5,023**

Note 22. Income Taxes

The Company is incorporated in the Cayman Islands, a tax-free country; accordingly, pretax income generated by the group parent company is not subject to local income tax. Substantially all of the Company's taxable income is derived from the operations in the ROC and, therefore, substantially all of the Company's income tax expense attributable to income from continuing operations is incurred in the ROC. Other foreign subsidiary companies calculate income tax in accordance with local tax law and regulations.

According to the amendments to the "Income Tax Act" enacted by the office of the President of the Republic of China (Taiwan) on February 7, 2018, an increase in the statutory income tax rate from 17% to 20% and a decrease in the undistributed earning tax from 10% to 5% are effective from January 1, 2018. The 5% surtax is only to the extent such income is not distributed or set aside as legal reserve before the end of the following year. The surtax is recorded in the period the income is earned, and the reduction in the surtax liability is recognized in the period the distribution to shareholders or the setting aside of legal reserve is finalized in the following year.

According to the amendments to the ROC Statute for Industrial Innovation in July 2019, in addition to providing 10 year extension for the existing tax credits for qualifying research and development expenses, deduction of actual investment from tax base of undistributed earning tax and tax credit for smart machinery and 5G system expenditures were added as new incentive items.

Eligible investment amount applicable for deduction of tax base of undistributed earning tax is effective for undistributed earnings invested in substantive investment within 3 years after fiscal year-end. Tax credit for investment amount eligible for smart machinery limited to 5% of expenditure for the current year or 3% of expenditure within 3 consecutive year. Tax credit for smart machinery combined with R&D tax credit shall not exceed 50% of current year corporate income tax plus undistributed earnings tax payable.

In accordance with the ROC Statute for Upgrading Industries, Himax Taiwan's capital increase in June 2009 as well as Himax Semiconductor's capital increase in October 2009 related to the manufacturing of a newly designed TFT-LCD driver were approved by the government authorities for income tax exemptions as a result of investing in a newly emerging, important and strategic industry. Himax Taiwan's capital increase in November 2009 related to the electronic parts and components manufacturing was also approved by the government authorities for income tax exemptions. The incremental income derived from selling the above new product is tax-exempt for a period of five years.

The Company is entitled to the following income tax exemptions:

Date of investment	Tax exemption period
Himax Taiwan:	
June 5, 2009	January 1, 2014-December 31, 2018
November 12, 2009	January 1, 2014-December 31, 2018
Himax Semiconductor[(1)]:	
October 9, 2009	January 1, 2014-December 31, 2018

Note (1): For management purpose, Himax Semiconductor Inc. was merged into Himax Technologies Limited on July 2, 2018. As a result, the tax exemption was expired upon merge.

(a) Income tax expense (benefit) recognized in profit or loss for the years ended December 31, 2018, 2019 and 2020 consists of the following:

	Year ended December 31,		
	2018	2019	2020
		(in thousands)	
Current tax expense			
Current period	$ 5,878	1,461	13,599
Adjustment for prior periods	(172)	(126)	(363)
	5,706	1,335	13,236
Deferred tax expense			
Origination and reversal of temporary differences	1,012	247	370
Investment tax credits and operating loss carryforward	(4,525)	(1,166)	(1,894)
Effect of tax rate changes	(1,199)	-	-
	(4,712)	(919)	(1,524)
Total income tax expense	**$ 994**	**416**	**11,712**

(b) Income taxes expense (benefit) recognized directly in other comprehensive income for the years ended December 31, 2018, 2019 and 2020 consist of the following:

	Year ended December 31,		
	2018	2019	2020
		(in thousands)	
Items that will not be reclassified to profit or loss:			
Remeasurements of defined benefit pension plans	**$ 169**	**25**	**(38)**

(c) Reconciliation of the expected income tax expense computed based on the ROC statutory income tax rate of 20% compared with the actual income tax expense as reported in the consolidated statements of profit or loss for the years ended December 31, 2018, 2019 and 2020 are summarized as follows:

	Year ended December 31,					
	2018		2019		2020	
	Rate	Amount	Rate	Amount	Rate	Amount
		(in thousands)		(in thousands)		(in thousands)
Profit (loss) before income taxes		$ 7,020		$ (15,768)		$ 56,872
Income tax expense calculated at the statutory rate	20.0%	1,404	20.0%	(3,154)	20.0%	11,374
Tax on undistributed earnings	(10.8%)	(755)	8.0%	(1,261)	3.0%	1,727
Tax-exempt income	(16.2%)	(1,135)	-	-	-	-
Tax benefit resulting from setting aside legal reserve from prior year's income	(0.8%)	(56)	0.3%	(51)	-	-
Tax benefit resulting from offsetting prior year's undistributed earning tax with current year's loss	-	-	2.8%	(443)	-	-
Increase in tax credits	(75.6%)	(5,306)	17.1%	(2,698)	(12.1%)	(6,895)
Effect of change of unrecognized deductible temporary differences, tax losses carryforwards and investment tax credits	100.2%	7,034	(40.9%)	6,455	8.7%	4,954
Net of non-taxable income and non-deductible expense	(2.1%)	(151)	(2.2%)	343	0.2%	129
Capital gain tax	(1.6%)	(116)	-	-	-	-
Changes in unrecognized tax benefits related to prior year tax positions, net of its impact to tax-exempted income	6.3%	440	(1.2%)	194	(1.2%)	(709)
Foreign tax rate differential	12.1%	850	(3.5%)	548	1.5%	881
Variance from audits, amendments and examinations of prior years' income tax filings	(0.8%)	(58)	(2.3%)	368	(0.6%)	(363)
Effect of tax rate changes	(17.1%)	(1,199)	-	-	-	-
Others	0.6%	42	(0.7%)	115	1.1%	614
Income tax expense		**$ 994**		**$ 416**		**$ 11,712**
Effective tax rate	14.2%		(2.6%)		20.6%	

(d) As of December 31, 2019 and 2020, the components of deferred tax assets and deferred tax liabilities were as follows:

		December 31, 2019	December 31, 2020
		(in thousands)	
Deferred tax assets:			
Inventory	$	5,089	4,426
Tax credit carryforwards		5,645	7,780
Operating loss carryforward-statutory tax		1,254	1,013
Accrued compensated absences		588	735
Allowance for sales discounts		576	411
Depreciation		521	561
Unrealized foreign exchange loss		102	179
Others		658	634
	$	**14,433**	**15,739**
Deferred tax liabilities:			
Acquired intangible assets	$	(1,255)	(1,014)
Remeasurement of defined benefit plans		(139)	(107)
Unrealized foreign exchange gain		-	(17)
	$	**(1,394)**	**(1,138)**

As of December 31, 2020, the Company has not provided for income taxes on undistributed earnings of approximately $640,496 thousand of its foreign subsidiaries since the Company has specific plans to reinvest these earnings indefinitely. A deferred tax liability will be recognized when the Company can no longer demonstrate that it plans to indefinitely reinvest these undistributed earnings. This amount becomes taxable when the ultimate parent company, Himax Technologies, Inc., executes other investments, share buybacks or shareholder dividends to be funded by cash distribution by its foreign subsidiaries. It is not practicable to estimate the amount of additional taxes that might be payable on such undistributed earnings because of the complexities of the hypothetical calculation.

(e) Changes in deferred tax assets and liabilities were as follows:

	January 1, 2019	Recognized in profit or loss	Recognized in other comprehensive income	December 31, 2019	Recognized in profit or loss	Recognized in other comprehensive income	December 31, 2020
				(in thousands)			
Inventory	$ 5,996	(907)	-	5,089	(663)	-	4,426
Tax credit carryforwards	3,567	2,078	-	5,645	2,135	-	7,780
Operating loss carryforward	2,166	(912)	-	1,254	(241)	-	1,013
Accrued compensated absences	553	35	-	588	147	-	735
Allowance for sales discounts	685	(109)	-	576	(165)	-	411
Depreciation	481	40	-	521	40	-	561
Unrealized foreign exchange loss	8	94	-	102	60	-	162
Remeasurement of defined benefit plans	(114)	-	(25)	(139)	(6)	38	(107)
Acquired intangible assets	(1,645)	390	-	(1,255)	241	-	(1,014)
Others	448	210	-	658	(24)	-	634
Total	**$ 12,145**	**919**	**(25)**	**13,039**	**1,524**	**38**	**14,601**

(f) Unrecognized Deferred Tax Assets

Gross amount of deferred tax assets have not been recognized in respect of the following items.

	December 31, 2019	December 31, 2020
	(in thousands)	
Unused tax credits	$ 1,560	1,560
Unused operating loss carryforwards-statutory tax	224,566	241,371
Unused operating loss carryforwards-undistributed earnings tax	229,177	261,659
Others	27,333	29,897
	$ 482,636	**534,487**

As of December 31, 2020, the unused investment tax credits with its expiration year from 2021 to 2034 from US operations were $1,560 thousand.

Tax loss carryforwards is utilized in accordance with the relevant jurisdictional tax laws and regulations. Net losses from foreign subsidiaries are approved by tax authorities in respective jurisdiction to offset future taxable profits. Under ROC Income Tax Acts, the tax loss carryforward in the preceding ten years is available to be deducted from tax income for Taiwan operations. The statutory losses would be deducted for undistributed earnings tax and were not subject to expiration for Taiwan operations.

As of December 31, 2020, the expiration period for abovementioned unrecognized deferred tax assets of unused operating loss carryforwards for statutory tax were as follows:

	Deductible amount	Unrecognized deferred tax assets	Expiration year
	(in thousands)		
Taiwan operations	$ 102,259	$ 20,452	2021~2025
	108,708	21,742	2026~2030
Hong Kong operations	1,828	151	Indefinitely
US operations	12,458	3,503	2024~2040
Israel operations	16,118	3,707	Indefinitely
		$ **49,555**	

(g) Assessments by the tax authorities

The Company's major taxing jurisdiction is Taiwan. All Taiwan subsidiaries' income tax returns have been examined and assessed by the ROC tax authorities through 2018. The income tax returns of 2019 for all Taiwan subsidiaries are open to examination by the ROC tax authorities. Taiwanese entities are customarily examined by the tax authorities and it is possible that a future examination will result in a positive or negative adjustment to the Company's unrecognized tax benefits within the next 12 months; however, management is unable to estimate a range of the tax benefits or detriment as of December 31, 2020.

Note 23. Financial Instruments

(a) Categories of financial instruments

(i) Financial assets

	December 31, 2019	December 31, 2020
	(in thousands)	
Financial assets measured at fair value through profit or loss (including current and noncurrent)	$ 13,500	21,765
Financial assets measured at fair value through other comprehensive income	709	742
Measured at amortized cost:		
Cash and cash equivalents	101,055	184,938
Financial assets at amortized cost	11,049	8,682
Accounts receivable and other receivables (including related parties)	168,377	252,162
Restricted deposit (including current and noncurrent)	164,133	104,141
Refundable deposits	4,372	12,144
Subtotal	448,986	562,067
Total	**$ 463,195**	**584,574**

(ii) Financial liabilities

	December 31, 2019	December 31, 2020
	(in thousands)	
Measured at amortized cost:		
Short-term unsecured borrowings	$ 57,339	-
Short-term secured borrowings	164,000	104,000
Accounts payables and other payables (including related parties)	154,175	222,739
Long-term unsecured borrowings (including current portion)	-	58,500
Lease liabilities	4,220	10,454
Guarantee deposits	400	5,765
Total	**$ 380,134**	**401,458**

(b) Liquidity risk

The following, except for payables (including related parties) that are repayable within a year, are the contractual maturities of financial liabilities, including estimated interest payments of unsecured borrowings, secured borrowings and lease liabilities.

(in thousands)		Contractual cash flows	Within 6 months	6-12 months	1-2 years	2-5 years	Over 5 years
December 31, 2019							
Non derivative financial liabilities							
Short-term unsecured borrowings	$	57,625	57,625	-	-	-	-
Short-term secured borrowings		164,254	114,248	50,006	-	-	-
Lease liabilities		4,450	971	559	1,614	1,306	-
Guarantee deposits		400	400	-	-	-	-
	$	**226,729**	**173,244**	**50,565**	**1,614**	**1,306**	-
December 31, 2020							
Non derivative financial liabilities							
Short-term secured borrowings	$	104,106	104,106	-	-	-	-
Long-term unsecured borrowings (including current portion)		60,684	3,216	3,209	6,379	18,862	29,018
Lease liabilities		10,725	1,600	1,603	4,538	2,984	-
Guarantee deposits		5,765	5,765	-	-	-	-
	$	**181,280**	**114,687**	**4,812**	**10,917**	**21,846**	**29,018**

The Company does not expect the cash flows included in the maturity analysis to occur significantly earlier or at significantly different amounts.

(c) Currency risk

i. Exposure to foreign currency risk

The Company's significant exposure to foreign currency risk was as follows:

(in thousands)	December 31, 2019			December 31, 2020		
	Foreign currency	Exchange rate	Functional currency	Foreign currency	Exchange rate	Functional currency
Financial assets						
Monetary items						
NTD	148,825	29.98	4,964	155,418	28.48	5,457
CNY	34,726	6.9762	4,978	35,630	6.5428	5,461
Financial liabilities						
Monetary items						
NTD	897,593	29.98	29,939	1,084,594	28.48	38,083
JPY	3,099	108.6232	29	632,215	103.0786	6,133

ii. Sensitivity analysis

The Company's exposure to foreign currency risk arises from the translation of the foreign currency exchange gains and losses on cash and cash equivalents, accounts receivable, other receivable, accounts payable, other payable and lease liabilities that are denominated in foreign currency.

Depreciation or appreciation of the USD by 10% against the New Taiwan Dollars (NTD) , CNY and JPY at December 31, 2019 and 2020, while all other variables were remained constant, would have increased or (decreased) the net profit before tax of $2,000 thousand and $3,330 thousand, respectively.

iii. Interest rate risk

The Company's short-term secured borrowings and long-term unsecured borrowings carried floating interest rates and fixed interest rates. The Company's exposure to changes in interest rates is mainly from floating-rate borrowings. Any change in interest rates will cause the effective interest rates of borrowings to change and thus cause the future cash flows to fluctuate over time.

The following sensitivity analysis is determined based on the exposure to interest rate risk. For floating-rate debts, the analysis assumes that the balances of outstanding debts at the end of the reporting period had been outstanding for the entire year.

For the Company's floating-rate debts, assuming all other variables were remained constant, an increase or a decrease in the interest rate by 0.25% would have resulted in a decrease or an increase in the net profit before tax for the years ended December 31, 2019 and 2020 by $336 thousand and $146 thousand, respectively.

(d) Fair value information

i. Financial instruments not measured at fair value

The Company considers that the carrying amounts of financial assets and financial liabilities measured at amortized cost approximate their fair values.

ii. Financial instruments measured at fair value

(1) Fair value hierarchy

		December 31, 2019				
			Fair Value			
(in thousands)		Carrying Amount	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value through profit or loss						
Equity securities-unlisted company	$	13,500	-	-	13,500	13,500
Subtotal		13,500	-	-	13,500	13,500
Financial assets measured at fair value through other comprehensive income						
Equity securities-unlisted company		709	-	-	709	709
Total	**$**	**14,209**	**-**	**-**	**14,209**	**14,209**

		December 31, 2020				
			Fair Value			
(in thousands)		Carrying Amount	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value through profit or loss						
Money market fund	$	7,799	7,799	-	-	7,799
Equity securities-unlisted company		13,966	-	-	13,966	13,966
Subtotal		21,765	7,799	-	13,966	21,765
Financial assets measured at fair value through other comprehensive income						
Equity securities-unlisted company		742	-	-	742	742
Total	**$**	**22,507**	**7,799**	**-**	**14,708**	**22,507**

(2) Valuation techniques and assumptions used in fair value measurement

The fair value of financial instruments traded in active markets is determined with reference to quoted market prices.

The fair value of financial instruments is based on the valuation techniques. The fair value using valuation techniques refers to the current fair value of other financial instruments with similar conditions and characteristics, or using a discounted cash flow method, or other valuation techniques which include model calculating with observable market data at the reporting date.

The fair value of equity securities-unlisted company is determined by reference to market valuations for similar operating entities quoted in an active market based on the net assets value of investees. The significant unobservable input is primarily the liquidity discounts, 28% for 2020. The estimated fair value would increase (decrease) if the liquidity discount rate were lower (higher).

(3) Transfer between levels of the fair value hierarchy

There were no transfers between levels for the years ended December 31, 2019 and 2020.

(4) Movement in financial assets included in Level 3 of fair value hierarchy

(in thousands)		Financial assets at fair value through profit or loss	Financial assets at fair value through other comprehensive income	Total
January 1, 2019	$	9,768	791	10,559
Disposal-capital reduction of investment		-	(47)	(47)
Recognized in other comprehensive income		-	(35)	(35)
Recognized in profit or loss		3,732	-	3,732
December 31, 2019	**$**	**13,500**	**709**	**14,209**

(in thousands)		Financial assets at fair value through profit or loss	Financial assets at fair value through other comprehensive income	Total
January 1, 2020	$	13,500	709	14,209
Disposal-capital reduction of investment		-	(32)	(32)
Recognized in other comprehensive income		-	65	65
Recognized in profit or loss		466	-	466
December 31, 2020	**$**	**13,966**	**742**	**14,708**

Note 24. Financial Risk Management

(a) Overview

The Company is exposed to the following risks due to usage of financial instruments:

(1) Credit risk
(2) Liquidity risk
(3) Market risk

Hereinafter discloses information about the Company's exposure to variable risks, and the goals, policies and procedures of the Company's risk measurement and risk management.

(b) Risk management framework

Management of related divisions are appointed to review, control, trace and monitor the strategic risks, financial risks and operational risks faced by the Company. Management reports to executive officers the progress of risk controls from time to time and, if necessary, report to the board of directors, depending on the extent of impact of risks.

(c) Credit risk

Credit risk is the risk of financial loss to the Company if a customer or counterparty to a financial instrument fails to meet its contractual obligations. The Company's exposures to credit risk are primarily from cash and cash equivalents, financial assets at amortized cost and accounts receivable.

The Company deposits its cash and cash equivalents with various reputable financial institutions. Financial assets at amortized cost are time deposits with original maturities of greater than three months. The Company has not experienced any material losses on deposits of the Company's cash and cash equivalents and financial assets at amortized cost. Management performs periodic evaluations of the relative credit standing of these financial institutions and limits the amount of credit exposure with any one institution. Management believes that there is a limited concentration of credit risk in cash and cash equivalent and financial assets at amortized cost.

The Company derived substantially all of its revenues from sales of display drivers that are incorporated into TFT-LCD panels. The TFT-LCD panel industry is intensely competitive and is vulnerable to cyclical market conditions and subject to price fluctuations. Management continuously evaluates and controls the credit quality, credit limit and financial strength of its customers to ensure any overdue receivables are taken necessary procedures.

The Company depends on three customers for majority of its revenues. The Company's sales to these three customers as a percentage of revenues are as follows:

	Year Ended December 31,		
	2018	2019	2020
Customer A and its affiliates	28.1%	29.5%	32.6%
Customer B and its affiliates	12.6%	8.9%	6.6%
Customer C	5.7%	5.6%	12.7%

The percentage of the Company's accounts receivable accounted by customers, those representing more than 10% of total accounts receivable balance, is summarized as follows:

	December 31, 2019	December 31, 2020
Customer A and its affiliates	37.7%	36.3%
Customer B and its affiliates	7.9%	8.2%
Customer C	5.8%	13.6%

Refer to Note 11 for aging analysis of accounts receivable and the movement in the loss allowance.

In addition, the Company has at times agreed to extend the payment terms for certain of its customers. Other customers have also requested extension of payment terms, and the Company may grant such requests for extension in the future. As a result, a default by any such customer, a prolonged delay in the payment of accounts receivable, or the extension of payment terms for the Company's customers could adversely affect the Company's cash flow, liquidity and operating results. Management performs ongoing credit evaluations of each customer and adjusts credit policy based upon payment history and the customer's credit worthiness, as determined by the review of their current credit information.

(d) Liquidity risk

The objective of liquidity risk management is to ensure the Company has sufficient liquidity to fund its business requirements associated with existing operations over the next 12 months. The Company manages its liquidity risk by maintaining adequate working capital and unused credit facilities.

At December 31, 2020, the Company's working capital together with existing unused credit facilities under its existing loan agreements will be sufficient to fulfill all of its contractual obligations. Therefore, management believes that there is no liquidity risk resulting from incapable of financing to fulfill the contractual obligations.

(e) Market risk

Market risk is the risk that changes in market prices, such as foreign exchange rates and interest rates, will affect the Company's income or the value of its holdings of financial instruments. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimizing the return.

(1) Currency risk

The Company is exposed to currency risk on operating activities that are denominated in a currency other than the respective functional currency of the Company, the USD. The currencies used in these transactions are the NTD, CNY and JPY.

(2) Interest rate risk

The Company is exposed to interest rate risk primarily related to its outstanding borrowings. The Company's borrowings carried floating interest rates. To manage the interest rate risk, the Company periodically assesses the interest rates of bank loans and maintains good relationships with financial institutions to obtain lower financing costs. The Company also strengthens the management of working capital to reduce the dependence on bank loans as well as the risk arising from fluctuation of interest rates.

Note 25. Capital management

Through clear understanding and managing of significant changes in external environment, related industry characteristics, and corporate growth plan, the Company manages its capital structure in a manner to ensure it has sufficient financial resources to fund its working capital needs, capital expenditures, research and development activities, dividend payments and other business requirements associated with its existing operations over the next 12 months.

There were no changes in the Company's approach to capital management during the year ended December 31, 2020. Neither the Company nor its subsidiaries are subject to externally imposed capital managements.

		December 31, 2019	December 31, 2020
		(in thousands)	
Total liabilities	$	387,237	424,619
Less: cash and cash equivalents		101,055	184,938
	$	**286,182**	**239,681**
Equity attributable to owners of Himax Technologies, Inc.	**$**	**432,987**	**480,176**

Note 26. Related-party Transactions

(a) Name and relationship

Name of related parties	Relationship
Viewsil Microelectronics (Kunshan) Limited (Viewsil)	Equity method investee of the Company
Viewsil Technology Limited (VST)	The subsidiary of Viewsil
Cheng Mei Materials Technology Corporation (CMMT)	Equity method investor of CMVT
Ningbo Cheng Mei Materials Technology Co., Ltd. (NBCMMT)	The subsidiary of CMMT

(b) Significant transactions with related parties

(i) Purchases and accounts payable

From acquisition date of CMVT to December 31, 2020, the purchase of raw materials from CMMT and NBCMMT were $663 thousand and $26 thousand, respectively. As of December 31, 2020, the related payable resulting from the purchase of raw materials were $1,530 thousand and $38 thousand, respectively.

(ii) The Company made an interest-free loan of $1,200 thousand and $1,200 thousand as of December 31, 2019 and 2020, respectively, to VST for its short-term funding needs. The loan is repayable on demand and the Company expects it will be repaid in full during 2021. The Company may consider providing further future loans to VST.

(iii) In 2018, 2019 and 2020, Viewsil provided technical service on new source driver chip and integrated circuit module for the Company's research activities for a fee of $2,200 thousand, $1,800 thousand and $1,400 thousand, respectively, which was charged to research and development expense. As of December 31, 2019 and 2020, the related payables resulting from the aforementioned transactions were $2,220 thousand and $2,480 thousand, respectively.

(iv) From acquisition date of CMVT to December 31, 2020, the miscellaneous purchases from CMMT was $84 thousand. As of December 31, 2020, the related payables resulting from the miscellaneous purchases were $92 thousand.

(v) In 2018, the Company purchased mask from VST for the Company's research activities for a fee of $1,597 thousand and the related payable had been paid before December 31, 2019.

(c) Compensation of key management personnel

For the years ended December 31, 2019 and 2020, the aggregate cash compensation that the Company paid to the independent directors was both $135 thousand. The aggregate share-based compensation that the Company paid to the independent directors was nil.

The compensation to key management personnel for the years ended December 31, 2018, 2019 and 2020 were as follows:

	Year ended December 31,		
	2018	2019	2020
		(in thousands)	
Short-term employee benefits	$ 855	822	884
Post-employment benefits	7	7	9
Share-based compensation	41	14	41
	$ 903	**843**	**934**

Note 27. Pledged assets

Pledged assets	Pledged to secure	December 31, 2019	December 31, 2020
		(in thousands)	
Restricted cash and time deposit [1]	Short-term secured borrowings	$ 164,000	104,000
Restricted time deposits [1]	For customs duties	133	141
Land [2]	Long-term unsecured borrowings	-	27,500
Building and improvements [2]	Long-term unsecured borrowings	-	43,616
		$ 164,133	**175,257**

Note (1): The pledged assets are booked as restricted deposits and classified as current or noncurrent by its liquidity.

Note (2): Guarantee and collateral for long-term unsecured borrowings.

Note 28. Commitments and Contingencies

(a) As of December 31, 2019 and 2020, the Company had entered into several contracts for the acquisition of equipment and computer software. Total contract prices amounted to $3,402 thousand and $4,893 thousand, respectively. As of December 31, 2019 and 2020, the remaining commitments were $2,380 thousand and $3,902 thousand, respectively.

(b) The Company from time to time is subject to claims regarding the proprietary use of certain technologies. Currently, management is not aware of any such claims that it believes could have a material adverse effect on the Company's financial position or results of operations.

(c) Since Himax Taiwan is not a listed company, it will depend on Himax Technologies, Inc. to meet its equity financing requirements in the future. Any capital contribution by Himax Technologies, Inc. to Himax Taiwan may require the approval of the relevant ROC authorities. The Company may not be able to obtain any such approval in the future in a timely manner, or at all. If Himax Taiwan is unable to receive the equity financing it requires, its ability to grow and fund its operations may be materially and adversely affected.

(d) The Company has entered into several wafer fabrication or assembly and testing service arrangements with service providers. The Company may be obligated to make payments for purchase orders entered into pursuant to these arrangements. Contractual obligations resulting from above arrangements approximate $129,420 thousand and $290,102 thousand as of December 31, 2019 and 2020, respectively.

(e) The Company is involved in various claims arising in the ordinary course of business. In the opinion of management, the ultimate disposition of these matters will not have a material adverse effect on the Company's consolidated financial position, results of operations, or liquidity. As of December 31, 2020, management is not aware of any pending litigation against the Company.

Note 29. Segment, Product and Geographic Information

The Company has two operating segments: Driver IC and Non-driver Products. The Driver IC segment generally is engaged in the design, research, development and sale of displays driver for large-sized TFT-LCD panels, which are used in televisions and desktop monitors, and displays driver for small and medium-sized TFT-LCD panels, which are used in mobile handsets and consumer electronics products. The Non-driver segment primarily is engaged in the design, research, manufacturing and sale of non-driver products, such as timing controllers, 3D Sensing Solution, LCOS, CMOS Image Sensors and WLO.

	Year Ended December 31, 2018		
	Driver IC	Non-driver products	Consolidated Total
		(in thousands)	
Segment revenues	$ 586,258	137,347	723,605
Segment operating income (loss)	$ 56,023	(52,638)	3,385
Non operating income, net			3,635
Consolidated profits before income taxes			$ 7,020
Significant noncash items:			
Share-based compensation	$ 189	219	408
Depreciation and amortization	$ 3,248	17,079	20,327

HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

Notes to Consolidated Financial Statements (Continued)

For the years ended December 31, 2018, 2019 and 2020

	Year Ended December 31, 2019		
	Driver IC	Non-driver products	Consolidated Total
		(in thousands)	
Segment revenues	$ 544,727	127,108	671,835
Segment operating income (loss)	$ 29,070	(47,377)	(18,307)
Non operating income, net			2,539
Consolidated loss before income taxes			$ (15,768)
Significant noncash items:			
Share-based compensation	$ 221	236	457
Depreciation and amortization	$ 5,511	18,888	24,399

	Year Ended December 31, 2020		
	Driver IC	Non-driver products	Consolidated Total
		(in thousands)	
Segment revenues	$ 756,522	130,760	887,282
Segment operating income (loss)	$ 98,687	(40,761)	57,926
Non operating loss, net			(1,054)
Consolidated profits before income taxes			$ 56,872
Significant noncash items:			
Share-based compensation	$ 481	282	763
Depreciation and amortization	$ 5,959	17,637	23,596

The following tables summarize information pertaining to the segment revenues from customers in different geographic region (based on customer's headquarter location):

	For the year ended December 31, 2018		
	Driver IC	Non-driver products	Consolidated Total
		(in thousands)	
China	$ 419,249	61,143	480,392
Taiwan	136,526	31,596	168,122
Other Asia Pacific (Philippines, Korea and Japan)	30,483	41,811	72,294
Europe and America	-	2,797	2,797
	$ 586,258	137,347	723,605

	For the year ended December 31, 2019		
	Driver IC	Non-driver products	Consolidated Total
		(in thousands)	
China	$ 421,729	50,643	472,372
Taiwan	90,971	38,286	129,257
Other Asia Pacific (Philippines, Korea and Japan)	31,861	36,918	68,779
Europe and America	166	1,261	1,427
	$ 544,727	127,108	671,835

	For the year ended December 31, 2020		
	Driver IC	Non-driver products	Consolidated Total
		(in thousands)	
China	$ 643,527	63,475	707,002
Taiwan	88,001	35,179	123,180
Other Asia Pacific (Philippines, Korea and Japan)	24,964	31,231	56,195
Europe and America	30	875	905
	$ 756,522	**130,760**	**887,282**

The following tables summarize information pertaining to the segment revenues from major product lines:

	For the year ended December 31, 2018		
	Driver IC	Non-driver products	Consolidated Total
		(in thousands)	
Display drivers for large-sized applications	$ 260,540	-	260,540
Display drivers for small and medium-sized applications	325,718	-	325,718
Non-driver products	-	137,347	137,347
	$ 586,258	**137,347**	**723,605**

	For the year ended December 31, 2019		
	Driver IC	Non-driver products	Consolidated Total
		(in thousands)	
Display drivers for large-sized applications	$ 237,276	-	237,276
Display drivers for small and medium-sized applications	307,451	-	307,451
Non-driver products	-	127,108	127,108
	$ 544,727	**127,108**	**671,835**

	For the year ended December 31, 2020		
	Driver IC	Non-driver products	Consolidated Total
		(in thousands)	
Display drivers for large-sized applications	$ 240,789	-	240,789
Display drivers for small and medium-sized applications	515,733	-	515,733
Non-driver products	-	130,760	130,760
	$ 756,522	**130,760**	**887,282**

The carrying values of the Company's property, plant and equipment are located in the following countries:

		December 31, 2019	December 31, 2020
		(in thousands)	
Taiwan	$	136,986	128,941
U.S.		730	1,413
China		803	878
Korea		95	524
Israel		265	167
Japan		59	151
	$	**138,938**	**132,074**

Revenues from significant customers, those representing 10% or more of total revenue for the respective periods, are summarized as follows:

		Year Ended December 31,		
		2018	2019	2020
			(in thousands)	
Driver IC segment:				
Customer A and its affiliates	$	178,907	182,442	264,700
Customer B and its affiliates		87,927	56,260	54,439
Customer C		38,678	33,318	109,911
	$	**305,512**	**272,020**	**429,050**
Non-driver products segment:				
Customer A and its affiliates	$	24,088	15,988	24,963
Customer B and its affiliates		2,917	3,521	3,906
Customer C		2,927	4,313	2,593
	$	**29,932**	**23,822**	**31,462**

Accounts receivable from significant customers, those representing 10% or more of total accounts receivable for the respective dates, is summarized as follows:

		December 31, 2019	December 31, 2020
		(in thousands)	
Customer A and its affiliates	$	62,136	88,353
Customer B and its affiliates		13,086	19,879
Customer C		9,580	33,171
	$	**84,802**	**141,403**

The Company has recognized the following contract liabilities in relation to revenue from contracts with customers:

	December 31, 2019	December 31, 2020
	(in thousands)	
Contract liabilities	**$ 1,902**	**6,622**

Revenue recognized in the current reporting period amounted to $1,539 thousand was related to carried-forward contract liabilities for performance obligations not satisfied in prior year.

All of the service contracts are for periods of one year or less. As permitted under IFRS 15, the transaction price allocated to these unsatisfied contracts is not disclosed. As of December 31, 2020, the Company did not recognize an asset in relation to costs to fulfill a service contract.

Note 30. The Nature of Expenses

(a) Depreciation of property, plant and equipment

	Year Ended December 31,		
	2018	2019	2020
	(in thousands)		
Recognized in cost of revenues	$ 8,600	8,146	6,935
Recognized in operating expenses	9,747	14,040	14,938
	$ 18,347	**22,186**	**21,873**

(b) Amortization of intangible assets

	Year Ended December 31,		
	2018	2019	2020
	(in thousands)		
Recognized in cost of revenues	$ 3	58	57
Recognized in operating expenses	1,977	2,155	1,666
	$ 1,980	**2,213**	**1,723**

(c) Employee benefits expense	Year Ended December 31, 2018	2019	2020
		(in thousands)	
Salary	$ 91,822	80,617	88,149
Labor and health insurance	6,054	5,668	5,805
Pension	5,474	5,246	4,536
Others	3,576	3,586	4,867
	$ **106,926**	**95,117**	**103,357**
Employee benefits expense summarized by function			
Recognized in cost of revenues	$ 6,512	5,597	5,579
Recognized in operating expenses	100,414	89,520	97,778
	$ **106,926**	**95,117**	**103,357**

Note 31. Himax Technologies, Inc. (the Parent Company only)

As a holding company, dividends received from Himax Technologies, Inc.'s subsidiaries in Taiwan, if any, will be subjected to withholding tax under ROC law as well as statutory and other legal restrictions.

The condensed separate financial information of Himax Technologies, Inc. is presented as follows:

Condensed Statements of Financial Position

	December 31, 2019	December 31, 2020
	(in thousands)	
Cash	$ 1,002	1,980
Financial asset at amortized cost	4,920	5,405
Other current assets	169	434
Financial asset at fair value through profit or loss	11,985	12,412
Investments in subsidiaries and affiliates	743,331	791,056
Total assets	**$ 761,407**	**811,287**
Current liabilities	$ 169	195
Current portion of long-term unsecured borrowings	-	6,000
Short-term secured borrowings	164,000	104,000
Debt borrowing from a subsidiary	164,251	168,416
Long-term unsecured borrowings	-	52,500
Total equity	432,987	480,176
Total liabilities and equity	**$ 761,407**	**811,287**

Himax Technologies, Inc. had no guarantees as of December 31, 2019 and 2020.

Condensed Statements of Profit or Loss

	Year Ended December 31,		
	2018	**2019**	**2020**
		(in thousands)	
Revenues	$ -	-	-
Costs and expenses	273	1,206	704
Operating loss	(273)	(1,206)	(704)
Interest income	200	162	126
Changes in fair value of financial assets at fair value through profit or loss	2,094	3,755	427
Foreign currency exchange gains (losses), net	(257)	(69)	356
Finance costs	(3,491)	(4,165)	(3,629)
Share of profits (loss) of subsidiaries and affiliates	10,296	(12,091)	50,558
Profit (loss) before income taxes	8,569	(13,614)	47,134
Income tax expense	-	-	-
Profit (loss) for the year	$ **8,569**	**(13,614)**	**47,134**

Condensed Statements of Other Comprehensive Income

	Year Ended December 31,		
	2018	**2019**	**2020**
		(in thousands)	
Profit (loss) for the year	$ 8,569	(13,614)	47,134
Other comprehensive income:			
Items that will not be reclassified to profit or loss:			
Remeasurements of defined benefit pension plans	1,269	197	(213)
Unrealized gain (loss) on financial assets at fair value through other comprehensive income	(676)	(30)	67
Income tax related to items that will not be reclassified subsequently	(169)	(25)	38
Items that may be reclassified subsequently to profit or loss:			
Foreign operations - foreign currency translation differences	(334)	(545)	512
Other comprehensive income for the year, net of tax	90	(403)	404
Total comprehensive income for the year	**$ 8,659**	**(14,017)**	**47,538**

HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

Notes to Consolidated Financial Statements (Continued)

For the years ended December 31, 2018, 2019 and 2020

Condensed Statements of Cash Flows

	Year Ended December 31,		
	2018	**2019**	**2020**
		(in thousands)	
Cash flows from operating activities:			
Profit (loss) for the year	$ 8,569	(13,614)	47,134
Adjustments for:			
Changes in fair value of financial assets at fair value through profit or loss	(2,094)	(3,755)	(427)
Interest income	(200)	(162)	(126)
Finance costs	3,491	4,165	3,629
Share of (profits) loss of subsidiaries and affiliates	(10,296)	12,091	(50,558)
Unrealized foreign currency exchange losses (gains)	257	69	(356)
	(273)	(1,206)	(704)
Changes in:			
Other current assets	(2)	320	(267)
Other current liabilities	(2,734)	(58)	(71)
Cash generated from operating activities	(3,009)	(944)	(1,042)
Interest received	199	174	130
Interest paid	(766)	(844)	(730)
Net cash used in operating activities	(3,576)	(1,614)	(1,642)
Cash flows from investing activities:			
Acquisitions of financial asset at amortized cost	(195)	(170)	(129)
Acquisitions of equity method investment	-	-	(758)
Cash received from (paid for) loan made to related party	(29)	2,780	-
Net cash provided by (used in) investing activities	(224)	2,610	(887)
Cash flows from financing activities:			
Payments of cash dividends	(17,210)	-	-
Proceeds from long-term unsecured borrowings	-	-	60,000
Repayments of long-term unsecured borrowings	-	-	(1,500)
Proceeds from short-term secured borrowings	91,000	158,000	278,000
Repayments of short-term secured borrowings	(74,000)	(158,000)	(338,000)
Proceeds from issue of RSUs from a subsidiary	336	311	-
Proceeds from exercise of employee stock options	-	-	3,707
Proceeds from debt from a subsidiary	154,281	150,430	151,730
Repayments of debt from a subsidiary	(151,156)	(151,548)	(150,430)
Net cash provided by (used in) financing activities	3,251	(807)	3,507
Net increase (decrease) in cash	(549)	189	978
Cash at beginning of year	1,362	813	1,002
Cash at end of year	**$ 813**	**1,002**	**1,980**

Corporate Information

Board of Directors

Chairman
Dr. Biing-Seng Wu

Directors
Jordan Wu
Dr.Yan-Kuin Su
Yuan-Chuan Horng
Dr. Hsiung-Ku Chen

Senior Management
Jordan Wu
Chief Executive Officer

Jessica Pan
Chief Financial Officer

Norman Hung
Executive VP, Sales and Marketing

Eric Li
Chief IR / PR officer and Spokesperson

Corporate Headquarter
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Investor Information
Shareholder Services for American Depositary Shares (ADSs)
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383 Madison Avenue, Floor11 New York, NY10179

Stock Listings
The Company's common stock trade on the NASDAQ National Market under the symbol "HIMX"

Independent Auditors
KPMG Certified Public Accountants

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