

Himax Technologies, Inc.  
Form 20-F  
March 28, 2018

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  
x 1934  
For the fiscal year ended December 31, 2017  
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**

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**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	Name of each exchange on which registered
<b>Ordinary Shares, par value \$0.3 per ordinary share</b>	<b>The NASDAQ Global Select Market Inc.*</b>

\* 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 class the period covered by the annual report.  
344,207,492 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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post 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):

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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<sup>†</sup> provided pursuant to Section 13(a) of the Exchange Act. ☐

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\$29.64, 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 29, 2017. 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 23, 2018, the noon buying rate was \$1.00 to NT\$29.18. Any discrepancies in any table between totals and sums of the amounts listed are due to rounding.

Unless otherwise indicated, in this annual report,

the terms “we,” “us,” “our company,” “our,” and “Himax” refer 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” refers 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;

“AMOLED” refers to active matrix organic light-emitting diode;

“ASIC” refers to application specific integrated circuit;

“CMOS” refers to complementary metal oxide semiconductor;

“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;

“SLiM<sup>TM</sup>” refers to Structured Light Imaging Module;

“TFT-LCD” refers to amorphous silicon thin film transistor liquid crystal display, or “a-Si TFT-LCD”;

“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;

“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;

“small and medium-sized panels” refers to panels that are typically around ten inches or less in diagonal measurement;

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 statement of income data and selected consolidated cash flow data for the years ended December 31, 2015, 2016 and 2017 and the selected consolidated balance sheet data as of December 31, 2016 and 2017 are derived from our audited consolidated financial statements included herein, which are presented in accordance with U.S. GAAP. The selected consolidated statement of income data and selected consolidated cash flow data for the years ended December 31, 2013 and 2014 and the selected consolidated balance sheet data as of December 31, 2013, 2014 and 2015 are derived from our audited consolidated financial statements that have not been included herein and are presented in accordance with U.S. GAAP. Our historical results do not necessarily indicate results expected for any future periods.

Beginning on January 1, 2018, we have decided to discontinue reporting under U.S. GAAP and instead to report our financial statements using IFRS, including our annual reports on Form 20-F for the year ending December 31, 2018 and thereafter.

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,

2013      2014      2015      2016      2017  
(in thousands, except per share data)

## Consolidated Statement of Income Data:

Revenues from third parties, net	\$684,184	\$840,542	\$691,789	\$802,917	\$685,167
Revenues from related parties, net	86,555	-	-	-	-
Costs and expenses <sup>(1)</sup> :					
Cost of revenues	578,886	634,660	528,651	608,605	518,142
Research and development	80,368	91,839	94,422	95,820	117,757
General and administrative	18,147	20,192	18,470	20,119	20,614
Bad debt expense	173	554	310	620	155
Sales and marketing	18,822	20,572	19,264	18,518	20,349
Operating income	\$74,343	\$72,725	\$30,672	\$59,235	\$8,150
Net income <sup>(2)</sup>	\$55,924	\$63,903	\$21,462	\$48,747	\$25,818
Net income attributable to Himax stockholders	\$61,476	\$66,598	\$25,195	\$50,912	\$27,967
Earnings per ordinary share attributable to Himax stockholders <sup>(2)</sup> :					
Basic	\$0.18	\$0.19	\$0.07	\$0.15	\$0.08
Diluted	\$0.18	\$0.19	\$0.07	\$0.15	\$0.08
Earnings per ADS attributable to Himax stockholders:					
Basic	\$0.36	\$0.39	\$0.15	\$0.30	\$0.16
Diluted	\$0.36	\$0.39	\$0.15	\$0.30	\$0.16
Weighted-average number of ordinary shares used in earnings per share computation:					
Basic	340,423	342,190	343,570	344,655	344,849
Diluted	343,618	343,997	344,132	344,724	344,903
Weighted-average number of ADS equivalent used in earnings per share computation:					
Basic	170,211	171,095	171,785	172,327	172,425
Diluted	171,809	171,999	172,066	172,362	172,452
Cash dividends declared per ordinary share <sup>(3)</sup>	\$0.125	\$0.135	\$0.150	\$0.065	\$0.120
Cash dividends declared per ADS	\$0.250	\$0.270	\$0.300	\$0.130	\$0.240

Note: (1) The amount of share-based compensation included in applicable costs and expenses categories is summarized as follows:

	Year Ended December 31,				
	2013	2014	2015	2016	2017
	(in thousands)				
Cost of revenues	\$235	\$121	\$110	\$224	\$204
Research and development	6,705	7,610	4,289	7,586	5,234
General and administrative	1,308	1,688	865	1,210	865
Sales and marketing	1,425	1,847	1,010	1,389	942
Total	\$9,673	\$11,266	\$6,274	\$10,409	\$7,245

Of the \$9.7 million, \$11.3 million, \$6.3 million, \$10.4 million and \$7.2 million in share-based compensation in 2013, 2014, 2015, 2016 and 2017, \$7.8 million, \$9.3 million, \$4.5 million, \$9.2 million and \$6.1 million were settled in cash, respectively.

Under the ROC Statute for Upgrading Industries, we are exempt from income taxes for income attributable to expanded production capacity or newly developed technologies. The effect of such tax exemption on our historical results was an increase on net income and basic and diluted earnings per share attributable to our stockholders of (2) \$2.4 million, \$0.01 and \$0.01, respectively, for the year ended December 31, 2013, \$2.8 million, \$0.01 and \$0.01, respectively, for the year ended December 31, 2014, \$1.8 million, \$0.01 and \$0.01, respectively, for the year ended December 31, 2015, \$3.9 million, \$0.01 and \$0.01, respectively, for the year ended December 31, 2016 and \$0.5 million, \$0.002 and \$0.002, respectively, for the year ended December 31, 2017. A portion of these tax exemptions expired or will expire on December 31, 2013 and December 31, 2018.

The above cash dividends should not be considered representative of the dividends that would be paid in any future (3) 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,				
	2013	2014	2015	2016	2017
	(in thousands)				
Consolidated Balance Sheet Data:					
Cash and cash equivalents	\$127,320	\$185,466	\$129,829	\$184,452	\$138,023
Accounts receivable, net	200,725	219,368	177,198	190,998	187,571
Inventories	177,399	166,105	171,374	149,748	135,200
Total current assets	639,657	729,576	697,835	702,965	661,418
Total assets	759,327	832,994	802,337	799,634	802,055
Accounts payable	151,290	179,328	124,423	142,269	139,933
Total current liabilities	303,833	355,405	352,730	324,746	337,199
Total liabilities	307,112	361,041	357,340	327,827	343,486
Redeemable noncontrolling interest	3,656	3,656	3,656	3,656	3,656
Ordinary shares	107,010	107,010	107,010	107,010	107,010
Treasury shares, at cost	(11,120 )	(10,144 )	(9,157 )	(9,020 )	(8,878 )
Total equity	448,559	468,297	441,341	468,151	454,913

Note: Himax Display, Inc., a consolidated subsidiary of our company, issued redeemable convertible preferred shares to a non-controlling shareholder in 2013. The noncontrolling shareholder may, solely at its option, convert its preferred shares at any time into ordinary shares of Himax Display, Inc. on a one to one basis. The redeemable noncontrolling interest was originally recognized on the balance sheet at fair value. Each reporting period, the redeemable noncontrolling interest is presented at the greater of its carrying amount or redemption value. Changes in value from period to period are charged to Himax stockholders on our consolidated balance sheets.



	Year Ended December 31,				
	2013	2014	2015	2016	2017
	(in thousands)				
Consolidated Cash Flow Data:					
Net cash provided by operating activities	\$51,123	\$93,719	\$22,529	\$84,672	\$29,393
Net cash provided by (used in) investing activities	(30,525)	10,644	(28,342)	(7,127 )	(35,088)
Net cash used in financing activities	(32,103)	(46,204)	(49,608)	(22,715)	(41,214)

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

#### Exchange Rate Information

The following table sets forth the average, high, low and period-end noon buying rates between NT dollars and U.S. dollars for the periods indicated. The exchange rates reflect the exchange rates set forth in the H.10 statistical release of the Federal Reserve Board.

Period	Noon Buying Rate			
	Average	High	Low	Period-end
	(NT dollars per U.S. dollar)			
2013	29.73	30.20	28.93	29.83
2014	30.38	31.80	29.85	31.60
2015	31.80	32.98	30.64	32.79
2016	32.22	33.43	31.27	32.40
2017	30.27	31.19	29.64	29.64
October	30.25	30.44	30.12	30.12
November	30.08	30.21	29.97	29.98
December	29.95	30.05	29.64	29.64
2018				
January	29.40	29.61	29.05	29.16
February	29.25	29.42	29.03	29.32
March(through March 23)	29.22	29.35	29.13	29.18

Note: (1) Annual averages are calculated by averaging month-end rates for the relevant year. Monthly averages are calculated by averaging daily rates for the relevant period.



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 has been an increased level of industry consolidation among our suppliers in recent years. Chipbond Technology Corporation, or Chipbond, merged with Simpal Electronics Co., Ltd. in 2014 for more chip-on-flex capacity and vertical integration. Such 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. Such industry change could further reduce the number of suppliers for gold bumping, COF packages services and Tape that we could use. Therefore, suppliers could be in a better position to bargain for higher prices for their services and products, which could result in an increase in our average unit cost. Moreover, as gold is a crucial raw material in the gold bumping process, any increases in the price of gold could result in an increase in our average unit cost and a decrease in our profit margin. If we are unable to transfer any increase in average unit cost to our customers by selling at higher prices, our gross margin would decrease and our 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 cyclicity and price fluctuations could negatively impact our business or results of operations.

In 2016 and 2017, 80.0% and 77.3% 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, capacity ramp-up, technological advancements and cost reduction with the exception of the new high end and high resolution products. The average selling prices of TFT-LCD panels could further decline for numerous reasons, including but not limited to the following:

- lower-than-expected demand for end-use products that incorporate TFT-LCD panels;

- a surge in industrial manufacturing capacity due to the ramping up of new fabrication facilities and/or improvements in production yields; and

- manufacturers operating at high levels of capacity utilization in order to reduce fixed costs per panel.

The TFT-LCD panel industry is volatile and difficult to predict. In 2014, smartphone boom in developed markets and in China generated great demand of small and medium sized panels, helping the TFT-LCD panel business to gradually recover. However, 2015 was a more challenging year for the TFT-LCD industry due to macro uncertainties and soft demand across the consumer electronics sectors. We cannot assure you that such similar events will not occur in the future or there will not be any future shortages of materials or components for our products or our customers' products or a decrease in demand for our products.

In addition, the merger of certain of our major customers, including CMO, Innolux and TPO in 2010, 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 in relation to the collectability of our accounts receivable, the marketability and valuation of our inventories, the impairment of our tangible and intangible assets, and the stability of our supply chain. As a result, the cyclical nature 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 the development, manufacturing and marketing of non-driver products as we diversify our product portfolio and because our non-driver products have higher gross margin than our driver products. Our non-driver products include, among others, timing controllers, touch panel controllers, TFT-LCD television and monitor semiconductor solutions, LCOS and MEMS microdisplays, power management ICs, CMOS image sensors, and wafer level optics products.

We believe end products utilizing our LCOS technology could potentially be a large market and we have made major progress toward commercialization of LCOS microdisplays for head-mounted-display. On top of that, we have seen supply chain maturing throughout the years with a growing number of significant players investing in microdisplay reference designs. Our LCOS microdisplay business hit inflection point in September 2015 with pilot production shipment made to a major customer. Since then, we have increased shipments of our LCOS products to some industry heavyweights and secured additional design engagements with current and new customers. Some of our major customers already launched their products in 2016. At present, our main focus areas for LCOS business are AR goggle devices and head-up-displays (HUD) for automotive, while AR will take a few years to fully realize its market potential. We continue to see heavyweight companies allocating major R&D resources and budgets to bring the new products into the market. Currently, Tier 1 companies and start-up companies are investing heavily to develop the ecosystem — applications, software, OS, firmware, system electronics, and optics. With all these investments, we will see an ecosystem build up within the next few years; the AR market will then be in an acceleration mode. While most customers don't expect big volume for their early generation products, we have been working with many of them for future generation devices. We are committed to providing the best technology to support them in the effort. We are also seeing constant additions of new customers using our LCOS for a variety of new applications. We believe that Himax stands to benefit from our customers' successful commercialization of their new products due to our unique position as the provider of choice for microdisplay and related optics. Nevertheless, these product categories are at a relatively early stage as compared to other products and they have a relatively immature supply chain. Therefore, it is difficult to project the success of the applications that use LCOS microdisplay products.

We also believe there are new market opportunities for our CMOS image sensors. 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. On top of our legacy products in laptop and multimedia, we've launched two computer vision sensor product lines, i.e., near infrared ("NIR") sensor and Always-on-Sensor ("AoS"). NIR sensor is the key building stone for passive as well as active computer vision system. With the special design in pixel architecture and materials, our NIR sensor provides industry leading Quantum Efficiency ("QE") to absorb NIR signal. In the collaboration with our partners in structured light, NIR plays an important role in the receiver. AoS, on the other hand, is an IoT sensor which consumes only several micro watt to do people detection, eye ball tracking, and other cool features. New sensor architectures, readout, pixel, and the corresponding slim algorithms are integrated together to contribute the always-on feature. Given that the two new exciting product lines just hit the market, it's still quite new to the industry. To build up the competition barrier, we're also devoted ourselves and pour a lot of resources into making the product lines more mature. As a result, these two new products take time to bear some fruits.

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 solutions and wafer-level optics products. We also plan to increase capital expenditure for the development and manufacturing of non-driver products in the future. Moreover, we will be subject to ramp-up expenses in the early stage of mass production of our non-driver products. 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, which may affect the success of our growth strategy. We may also overestimate the market potential of the end products that are utilizing or will utilize our non-driver products, which may negatively impact our strategy for the development of non-driver products. In addition, if we are unsuccessful in expanding our product offerings to non-driver products, it may negatively affect our reputation and the status of our brand in our other markets. 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 our results of operations and growth prospects.

The concentration of our 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.

As of December 31, 2017, our accounts receivable less allowance for sales returns and discounts from Customer A and its affiliates were \$60.7 million, which represented approximately 32.4% of our total accounts receivable less allowance for doubtful accounts, sales returns and discounts. 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. Other customers have also requested extensions of payment terms. We may also agree to grant such requests for the extension of payment terms 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 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.

The TFT-LCD panel industry is highly competitive. 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 TFT-LCD 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 successfully and sustain their market positions. In addition, our customers' business performance may fluctuate significantly due to a number of factors, many of which are beyond their control, including:

- consumer demand and the general economic conditions;

- the cyclical nature of both the TFT-LCD industry, including fluctuations in average selling prices, and its downstream industries;

- the speed at which TFT-LCD panel manufacturers expand production capacity;

- brand companies' continued need for original equipment manufacturing services provided by TFT-LCD panel manufacturers;

- access to raw materials, components, equipment and utilities on a timely and economical basis;

technological changes;

the rescheduling and cancellation of large orders;

access to funding on satisfactory terms; and

fluctuations in the currencies of TFT-LCD panels exporting countries against the U.S. dollar.

Our customers continued to operate in a challenging business environment and may experience a decline in profitability or may not be profitable at all. In addition, the aggressive expansion plans for next generation fabs in China proposed by several TFT-LCD panel manufacturers might significantly increase the output of TFT-LCD panels if all of the plans are implemented in the next few years, which could result in a decline in the average selling prices of TFT-LCD panels. In addition, the antitrust lawsuits in the U.S. and the European Union against several TFT-LCD panel manufacturers have materially and adversely affected the profitability of certain of our customers, which could, in turn, adversely affect our profit margin, significantly reduce our profits and materially affect our results of operations and financial condition.



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 2016 and 2017, we derived 80.0% and 77.3% of our revenues from the sale of display drivers used for large-sized applications, mobile handset applications and consumer electronics applications, and we expect to continue to derive a substantial portion of our revenues from these or related products. As the display drivers industry and our display drivers business are relatively mature, there may be limited potential for the overall display drivers market to grow and for us to further grow our market share, which could limit our future growth in 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.” We expect to continue to derive a substantial portion of our revenues from the sale of display drivers. 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.

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, growth in our market share or an increase in our average selling prices, our revenues may decline.

With the high penetration rate of smartphones, growth of the market has been slowing down in the past two years. LCD display and its driver IC in smartphone application is getting more commoditized with lower ASP. Meanwhile, addressable market size of conventional smartphone DDIC is eroded gradually by AMOLED and in-cell display, which used to be emerging technologies but have ramped up with significant adoption rate. Being one of the leading DDIC suppliers, Himax also has been devoted to development activities for AMOLED DDIC and in-cell TDDIs. Nevertheless, AMOLED display and IC industry has been dominated by Korean companies, and Himax TDDI went through the learning curve in 2016 and just started to ramp-up in 2017.

Except for certain small-sized panels, multiple display drivers are typically required for each panel to function. 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. Recently, 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.

We face numerous challenges relating to our growth.

The scope and complexity of our business has grown significantly since our inception. Our growth has placed, and will continue to place, a strain on our management, personnel, systems and resources. If we are unable to manage our growth effectively, we may not be able to take advantage of market opportunities, execute our business plan or respond to competitive pressures. To successfully manage our growth, we believe we must effectively:

- hire, train, integrate, retain and manage additional qualified engineers, senior managers, sales and marketing personnel, and information technology personnel;

- implement additional, and improve existing, administrative and operations systems, procedures and controls;

- expand our accounting and internal audit team, including hiring additional personnel with U.S. GAAP, IFRS and internal control expertise;

- continue to expand and upgrade our design and product development capabilities;

manage multiple relationships with semiconductor manufacturing service providers, customers, suppliers and certain other third parties; and

continue to develop and commercialize non-driver products, including, among others, timing controllers, touch controller ICs, TFT-LCD television and monitor semiconductor solutions, LCOS and MEMS microdisplays, power ICs, CMOS image sensors and wafer level optics products.

Moreover, if our allocation of resources does not correspond with future demand for particular products, we could miss market opportunities, and our business and financial results could be materially and adversely affected. Therefore, we cannot assure you that we will be able to manage our growth effectively in the future.

Our quarterly revenues and operating results are difficult to predict, and if we do not meet quarterly financial expectations, our ADS price will likely decline.

Our quarterly revenues and operating results are difficult to predict. They have fluctuated in the past from quarter to quarter and may continue to do so in the future. Our operating results may in some quarters fall below market expectations, likely causing our ADS price to decline. Our quarterly revenues and operating results may fluctuate because of many factors, including:

- our ability to accurately forecast shipments, average selling prices, cost of revenues, operating expenses, non-operating income/loss, foreign currency exchange rates, and effective income tax rates;

- our ability to transfer any increase in unit costs to our customers;

- our ability to accurately perform various tests, estimations and projections, including with respect to the write-down on slow or obsolete inventories, the impairment of long-lived assets, the collectibility of accounts receivable, and the realization of deferred tax assets;

- our ability to successfully design, develop and introduce in a timely manner new or enhanced products acceptable to our customers;

- changes in the relative mix in the unit shipments of our products, which may have significantly different average selling prices and cost of revenues as a percentage of revenues;

- changes in share-based compensation;
- the loss of one or more of our key customers;
- decreases in the average selling prices of our products;
- our accumulation and write-down of inventory;
- the relative unpredictability in the volume and timing of customer orders;
- shortages of other components used in the manufacture of TFT-LCD panels;
- the risk of cancellation or deferral of customer orders in anticipation of our new products or product enhancements, or due to a reduction in demand of our customers' end product;
- changes in our payment terms with our customers and our suppliers;
- our ability to negotiate favorable prices with customers and suppliers;
- changes in the available capacity of semiconductor manufacturing service providers;
- the rate at which new markets emerge for new products under development;
- the evolution of industry standards and technologies;
- product obsolescence and our ability to manage product transitions;

- increase in cost of revenues due to inflation;

- our involvement in litigation or other types of disputes;

changes in general economic conditions, especially the impact of the global financial crisis on economic growth and consumer spending, and the unease in the Middle East;

- changes in our tax exemptions, transfer pricing policy and applicable income tax regulations; and

natural disasters, particularly earthquakes and typhoons, or outbreaks of disease affecting countries where we conduct our business or where our products are manufactured, assembled or tested.

The factors listed above are difficult to foresee, and along with other factors, could seriously harm our business. We anticipate the rate of new orders may vary significantly from quarter to quarter. Our operating expenses and inventory levels are based on our expectations of future revenues, and our operating expenses are relatively fixed in the short term. Consequently, if anticipated sales and shipments in any quarter do not occur as expected, operating expenses and inventory levels could be disproportionately high, and our operating results for that quarter and, potentially, future quarters may be negatively impacted. Any shortfall in our revenues would directly impact our business. Our operating results are volatile and difficult to predict; therefore, you should not rely on the operating results of any one quarter as indicative of our future performance. Our operating results in future quarters may fall below the expectations of securities analysts and investors. In this event, our ADS price may decline significantly.

The strategic relationships between certain of our competitors and their customers and the development of in-house capabilities by TFT-LCD 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. In addition, we also face challenges in attracting new customers for our new 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, which may require different strategies and may present difficulties that we have not encountered before. Therefore, failure to broaden our customer base and attract new customers may limit our growth prospects.

We depend primarily on ten 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 ten 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. Moreover, Japanese integrated device manufacturer companies may outsource their semiconductor manufacturing to foundries outside Japan. This could result in tightness in the foundry supply available to us and affect our ability to acquire sufficient capacity. As we currently do not have any long-term supply arrangements with any third-party foundries to guarantee us access to a certain level of foundry capacity, 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 from these foundries to meet any increasing demand for our products and would have to seek alternative foundries, which may not be available on commercially reasonable terms, or at all, or which may expose us to risks associated with qualifying new foundries, as further discussed below. Our results of operations and business prospects could be adversely affected as a result of the foregoing.

We place wafer orders on the basis of our customers' purchase orders and sales forecasts; however, any of the foundries we use can allocate capacity to other foundry customers and reduce deliveries to us on short notice. It could be that other foundry customers are larger and better financed than we are, or have supply agreements or better relationships with the foundries we use, and could induce these foundries to reallocate our capacity to them. The loss of any of the foundries we use or any shortfall in available foundry capacity could impair our ability to secure processed wafers, which could significantly delay our ability to ship our products, causing a loss of revenues and damages to our customer relationships.

Although we use several foundries for different semiconductor products, certain of our products are manufactured at only one of these foundries. If any one of the foundries that we use for a specific product is unable to provide us with our required capacity, does not deliver in a timely manner, or the quality or pricing terms are not acceptable to us, we could experience significant delays in receiving the product being manufactured for us by that foundry or incur additional costs to obtain substitutes. Also, if any of the foundries that we use 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 of their foundry operations, we may not be able to qualify an alternative foundry in a timely manner. If we choose to use a new foundry or process technology for a particular semiconductor product, we believe that it will take us several quarters to qualify the new foundry or process before we can begin shipping such products. If we cannot qualify a new foundry in a timely manner, we may experience a significant interruption in our supply of the affected products, which could reduce our revenues, increase our costs and expenses, and damage our customer relationships.

The recent fluctuations in the prices of certain metals, chemicals and gasoline and the recent volatility of foreign exchange rates may have increased costs for foundries and semiconductor service providers. This increase in costs could limit their ability to continue to make the research and development investments needed to keep up with technological advances. Any increase in costs for foundries and semiconductor service providers we use could lead to an increase in our unit costs or could limit our ability to lower our unit costs. We cannot assure you that we will be able to continue to reduce our costs and maintain our profit margins.

Taiwan Semiconductor Manufacturing Company Limited, or TSMC, and Vanguard International Semiconductor Corporation, or Vanguard, historically manufactured substantially all of our wafers in the early years since our inception. In order to diversify our foundry sources, we have also used Macronix International Co., Ltd., or Macronix, Powerchip Technology Corporation, or PSC, Globalfoundries Singapore Pte., Ltd. (formerly Chartered Semiconductor Manufacturing Ltd.), or Globalfoundries Singapore, United Microelectronics Corporation, or UMC, Maxchip Electronics Corp., or Maxchip, Semiconductor Manufacturing International Corporation, or SMIC, Shanghai Hua Hong NEC Electronics Company, Ltd., or HHNEC, and SK Hynix to manufacture a portion of our products. As a result of outsourcing the manufacturing of our wafers, we face several significant risks, including:

- failure to secure necessary manufacturing capacity, or being able to obtain required capacity only at higher costs;
- risks of our proprietary information leaking to our competitors through the foundries we use;
- limited control over delivery schedules, quality assurance and control, manufacturing yields and production costs;
- the unavailability of, or potential delays in obtaining access to, key process technologies; and

financial risks of certain of our foundry suppliers, including those that are owned by ailing dynamic random access memory, or DRAM, companies.

In addition, in order to manufacture our display drivers used in TFT-LCD panels, we require foundries with high-voltage manufacturing process capacity. Of the limited number of foundries that offer this capability, some are owned by integrated device manufacturers which are also our competitors. As a result, our dependence on high-voltage foundries presents the following additional risks:

potential capacity constraints faced by the limited number of high-voltage foundries and the lack of investment in new and existing high-voltage foundries;

difficulty in attaining consistently high manufacturing yields from high-voltage foundries;

delay and time required (approximately one year) to qualify and ramp up production at new high-voltage foundries; and

price increases.



As a result of these risks, 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 and importance 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.

Shortages of processed tape used in the manufacturing of our products, increased costs of manufacturing such tape, or the loss of one of our suppliers of such tape may increase our costs or limit our revenues and impair our ability to ship our products on time.

There are a limited number of companies which supply the processed tape used to manufacture our semiconductor products, and we do not have binding long-term supply arrangements with processed tape suppliers that would guarantee us access to processed tape. Therefore, from time to time, shortages of such processed tape may occur. If any of the processed tape suppliers we rely upon experience difficulties in delivering processed tape or are unable to meet the prices, quality or services that we require, or if our business relationships with these suppliers weaken or deteriorate, we may not be able to locate alternative sources in a timely manner. Therefore, if shortages of processed tape were to occur, or if the costs of manufacturing such tape increases, we would incur additional costs or be unable to ship our products to our customers in a timely fashion, all of which could harm our business and our customer relationships and negatively impact our earnings. As a result of these risks, we may also be required to use processed tape suppliers with which we have no established relationships, which could expose us to potentially unfavorable pricing, unsatisfactory quality or insufficient capacity allocation. Moreover, the scarcity and importance of processed tape may necessitate us making investments in processed tape suppliers in order to secure adequate supply, 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.

The loss of, or our inability to secure sufficient capacity from, any of our third-party 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 assembly and testing capacity is critical to our business because we do not have in-house 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 assembly and testing services. A limited number of third-party assembly and testing houses 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 for their services and products, which could result in an increase in our average unit cost. See also “—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.” We do not have binding long-term supply arrangements with assembly and testing service providers that guarantee us access to our required capacity. If the primary 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 from such providers 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, assembly and testing costs, and quality assurance and control. If any of these third-party 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.

As a result of these risks, we may be required to use assembly and testing service providers with which we have no established relationships, which could expose us to potentially unfavorable pricing, unsatisfactory quality or insufficient capacity allocation. Moreover, the scarcity and importance of assembly and testing services may necessitate us making investments in 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 certain engineering, technical and senior management personnel. In particular, our engineers and other key technical personnel are critical to our future technological and product innovations. Competition for highly skilled engineers and other key technical personnel is intense in the semiconductor industry in general and in Taiwan's flat panel semiconductor industry in particular. Moreover, our future success depends on the expansion of our senior management team and the retention of key employees such as Jordan Wu, our president and chief executive officer, and Dr. Biing-Seng Wu, our chairman. We rely on these individuals to manage our company, develop and execute our business strategies, and manage our relationships with key suppliers and customers. Any of our key employees could leave our company with little or no prior notice. They could also leave our company to 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 as well as on our overall business and growth prospects. 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 that we use to manufacture our products is typically longer than the lead time that our customers provide for delivery of our products to them. Therefore, 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 from these products until they are shipped 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 these customers more quickly. We may from time to time agree that title and risk of loss do not pass to our customer until the customer requests delivery of our products from such warehouses. In such cases, we will not recognize revenues from these products until the title and risk of loss have passed to our customers based on the shipping terms, which is generally when they are delivered to our customers from these warehouses. As a result, 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. For example, some of our customers might overstate their forecasts because of concerns that their semiconductor suppliers cannot deliver on their rush orders. 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. Obtaining additional supply in the face of product shortages may be costly or impossible, particularly in the short term, which could prevent us from fulfilling orders. 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 current and prospective customers designing our products into their products. To achieve design wins, we must design and deliver cost-effective, innovative, reliable and integrated products that are customized for our customers' needs. Once a supplier's products have been designed into a system, the panel manufacturer may be reluctant to change its source of components due to the significant costs and time associated with qualifying a new supplier. Accordingly, our failure to obtain additional design wins with panel manufacturers and to successfully design, develop and introduce new products and product enhancements could harm our business, financial condition and results of operations.

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. Customers can choose at any time to stop using our products in their designs or product development efforts. Moreover, even if our products were chosen to be incorporated into a customer's products, our ability to generate significant revenues from that customer would depend on the commercial success of those products. Thus, a design win may not necessarily generate significant revenues if our customers' products are not commercially successful.

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, 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 when first introduced or as new versions are released. 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. Defects could also lead to liability for defective products and lawsuits against us or our customers. We have agreed to indemnify some of our customers under some circumstances against liability from defects in our products. A successful product liability claim could require us to make significant damage payments.

Our display drivers comprise part of a complex panel manufactured by our customers. Our display drivers must operate according to specifications with the other components used by our customers in the panel manufacturing process. For example, during the panel manufacturing process, our display drivers are attached to the panel glass and must interoperate with the glass efficiently. If other components fail to operate efficiently with our display drivers, we may be required to incur additional development time and costs to improve the interoperability of our display drivers with the other components.

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 is a complex process, and it is often difficult for semiconductor foundries to manufacture our products completely without defects. Minor deviations in the manufacturing process can cause substantial decreases in yield and quality. In particular, some of our products are highly integrated and incorporate mixed analog and digital signal processing and embedded memory technology, and this complexity makes it even more difficult to manufacture without defects.

The ability to manufacture products of acceptable quality depends on both product design and manufacturing process technology. 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. The difficulty in identifying defects is compounded by the uniqueness of the process technology used in each of the semiconductor foundries with which we have subcontracted to manufacture our products. Difficulties in achieving defect-free products due to the increasing complexity of display drivers and the panel system surrounding them 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 for our products 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 do 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 do 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. In the past, some of our customers have also significantly lowered their capacity utilization rates, reduced or canceled their orders of our products, and requested higher-than-usual price concessions from us. We cannot assure you that any of our customers will continue to place orders with us in the future at the same level as in prior periods. 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.

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, 2018, Jordan Wu and Dr. Biing-Seng Wu (who are brothers) beneficially owned approximately 2.1% and 20.7% 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:

- stop selling products or using technology or manufacturing processes that contain the allegedly infringing intellectual property;

- pay damages to the party claiming infringement;

- attempt to obtain a license for the relevant intellectual property, which may not be available on commercially reasonable terms or at all; and

- 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 patent, trademark, trade secret and copyright laws and contractual restrictions to protect our intellectual property. 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. As of February 28, 2018, we and our subsidiaries had 113 U.S. patent applications pending, 93 Taiwan patent applications pending and 227 patent applications pending in other jurisdictions, including the PRC, Japan, Korea and Europe. 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 property or otherwise gain access to our trade secrets or intellectual property. Our failure to protect our intellectual property 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. For example, in February 2018, our subsidiary, Himax IGI Precision Ltd., or Himax IGI, acquired certain advanced nano 3D masters manufacturing assets and related intellectual property and business from a US-based technology company. 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 Himax the very upstream master tooling capability to supplement the company's world leading WLO technology, which is critical in its efforts to offer 3D sensing total solutions. We cannot assure you that we will be able to realize the benefits we anticipate from acquiring nano 3D master business. 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:

- problems integrating the acquired operations, technologies or products into our existing business and products;
- diversion of management's time and attention from our core business;

- adverse effects of losses of the acquired target upon our financial condition and results of operations;
  - adverse effects on existing business relationships with customers;
  - the need for financial resources above our planned investment levels;
  - dilution of share ownership of current shareholders under share swap transactions;
  - failures in realizing anticipated synergies;
- difficulties in retaining business relationships with suppliers and customers of the acquired company;
  - risks associated with entering markets in which we lack experience;
  - potential loss of key employees of the acquired company;
  - potential write-offs of acquired assets;
- potential expenses related to the depreciation of tangible assets and amortization of intangible assets; and
  - potential impairment charges related to the goodwill acquired.

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.

New regulations related to conflict minerals could increase our costs and limit the supply of certain metals used in our products.

As required under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, as amended, or the Dodd-Frank Act, in August 2012 the SEC promulgated final rules regarding annual disclosures by public companies of their use of certain minerals and metals, known as “conflict minerals,” which are defined as cassiterite, columbite-tantalite, gold, wolframite or their derivatives and other minerals determined by the U.S. government to be financing conflict in the Democratic Republic of Congo and adjoining countries. These new rules will require us to ascertain and disclose the origin of some of the raw materials that we use. Initial disclosures were required no later than May 31, 2014, with subsequent disclosures required no later than May 31 of each following year. Currently, such conflict is not determinable in our case and we cannot assure you that no conflict minerals identified under the conflict minerals rules issued by the SEC are used in our products. Since our supply chain is complex, we may not be able to sufficiently verify the origins of these minerals and metals used in our products through the due diligence procedure that we implement, which may harm our reputation. In that event, we may also face difficulties in satisfying customers who require that all of the components of our products are certified as conflict mineral free. There will be costs associated with complying with these disclosure requirements, including costs for diligence to determine the sources of conflict minerals used in our products and other potential changes to products, processes or sources of supply as a consequence of such verification activities. The implementation of these rules and our compliance procedures could adversely affect the sourcing, supply, and pricing of materials used in our products. As there may be only a limited number of suppliers offering “conflict free” minerals, we cannot be sure that we will be able to obtain necessary “conflict free” minerals from such suppliers in sufficient quantities or at competitive prices.

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 attempts to harm our computer system and networks. The reliability and security of our information technology infrastructure and software, and our ability to expand and continually update technologies in response to our changing needs and cybersecurity threats, is 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 or technological error. Cyber attacks could result in a loss of our intellectual property, the release of commercially sensitive information, the misappropriation of confidential information of our employees, customers or suppliers and 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 cost and operational consequences of responding to breaches and implementing remediation measures could be significant.

Some of our data centers are located in areas with a risk of major earthquakes. Our data centers are also subject to break-ins and sabotage. Our disaster recovery planning 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 service, which could harm our relationship with our customers and suppliers.

## 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. The TFT-LCD panel market is highly cost sensitive, which may result in declining average selling prices of the components comprising TFT-LCD panels. We expect that these factors will create downward pressure on our average selling prices and operating results. To maintain acceptable operating results, we will need to develop and introduce new products and product enhancements on a timely basis and continue to reduce our costs. 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.

The semiconductor industry, in particular semiconductors used in flat panel displays, is highly competitive. Increased competition may result in pricing pressure, reduced profitability and loss of market share, any of which could seriously harm our revenues and results of operations. Competition principally occurs at the design stage, where a customer evaluates alternative design solutions that require display drivers. We continually face intense competition from fabless display driver companies as well as from integrated device manufacturers. Some of our competitors have substantially greater financial and other resources than we do with which 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 than we can. Some of our competitors have manufacturing capabilities as well as in-house design operations that may give them significant advantages such as more research and development resources and the ability to attract highly skilled engineers. Furthermore, 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. In addition, even competitors with no such strategic associations with panel manufacturers may resort to price competition to maintain their market share, which may impose pricing

pressures on us, reduce our profitability or decrease our market share. We cannot assure you that we will be able to increase or maintain our revenues and market share, or compete successfully against our current or future competitors in the semiconductor industry.

We may be adversely affected by the cyclical nature of the semiconductor industry.

The semiconductor industry is highly cyclical and is characterized by constant and rapid technological change, product obsolescence and price erosion, evolving standards, short product life cycles and wide fluctuations in product supply and demand. The semiconductor industry has, from time to time, experienced significant downturns, often connected with, or in anticipation of, maturing product cycles of both semiconductor companies' and their customers' products and declines in general economic conditions. These downturns have been characterized by diminished product demand, production overcapacity, high inventory levels and accelerated erosion of average selling prices. Any future downturn may reduce our revenues and result in our having excess inventory. Furthermore, any upturn in the semiconductor industry could result in increased competition for access to limited third-party foundry, assembly and testing capacity. Failure to gain access to foundry, assembly and testing capacity could impair our ability to secure the supply of products that we need, which could significantly delay our ability to ship our products, cause a loss of revenues and damage our customer relationships.

We have a lengthy and expensive design-to-mass production cycle.

The cycle time from the design stage to mass production for display drivers is long and requires the investment of significant resources with each potential customer without any guarantee of sales. Our design-to-mass production cycle typically begins with a three to twelve-month semiconductor development stage and test period followed by a three to twelve-month end product development period by customers. This fairly lengthy cycle creates the risk that we may incur significant expenses but will be unable to realize meaningful sales. Moreover, prior to mass production, customers may decide to cancel the projects or change production specifications, resulting in sudden changes in our product specifications, further causing increased production time and costs. Failure to meet such specifications may delay the launch of our products.

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. Likewise, the components used in the TFT-LCD panel industry are constantly changing with increased demand for improved features. Moreover, 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. A Taiwan company is 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 reserves). In addition, before distributing a dividend to shareholders following the end of a fiscal year, the 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. 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. In addition, since Himax Taiwan is not a listed company, it will depend on us to meet its equity financing requirements in the future. Any capital contribution by us to Himax Taiwan may require the approval of the relevant ROC authorities. We 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.

#### Political, Geographical and Economic Risks

Due to the location of our operations in Taiwan, we and many of our semiconductor manufacturing service providers, suppliers and customers are vulnerable to natural disasters and other events outside of our control, which may seriously disrupt our operations.

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 and assembly and testing houses upon which we have relied to manufacture substantially all of our display drivers are located in Taiwan. In 2017, 25.8% of our revenues were derived from customers headquartered in Taiwan. As a result of this geographic concentration, disruption of operations at our facilities or the facilities of our semiconductor manufacturing service providers, suppliers and customers for any reason, including work stoppages, power outages, water supply shortages, fire, typhoons, earthquakes, contagious diseases or other natural disasters, could cause delays in production and shipments of our products. Any delays or disruptions could result in our customers seeking to source products from our competitors. Shortages or suspension of power supplies have occasionally occurred and have disrupted our operations. The occurrence of a power outage in the future could seriously hurt our business.



On February 6, 2016, the 6.4 magnitude earthquake hit Tainan area. Fortunately, the Company's headquarters and the in-house manufacturing facilities for LCOS and WLO products, both located in Tainan, were little affected. Since most of our operations and our customers and suppliers are based mainly in Taiwan, the natural disasters could adversely affect our business, financial condition or results of operations.

The manufacturing processes of TFT-LCD panels require a substantial amount of water and, as a result, the production operations of TFT-LCD panels may be seriously disrupted by water shortages. Our customers may encounter droughts in areas where most of their current or future manufacturing sites are located. If a drought were to occur and our customers or the authorities were unable to source water from alternative sources in sufficient quantities, our customers may be required to shut down temporarily or to substantially reduce the operations of their fabs, which would seriously affect demand for our products. The occurrence of any of these events in the future could adversely affect our business.

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

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

Our business is sensitive to global economic conditions. A severe or prolonged downturn in the global or Taiwan economy could materially and adversely affect our business and our financial condition.

The global financial markets experienced significant disruptions in 2008 and the United States, Europe and other economies went into recession. Since then, the recovery has been uneven and the global economy is facing new challenges, such as the escalation of the European sovereign debt crisis since 2011, the slowdown of the Chinese economy since 2011, China stock market crash in 2015, and volatility in oil prices and currency. It is unclear whether the European sovereign debt crisis will be contained. There is considerable uncertainty over the long-term effects of the expansionary monetary and fiscal policies that have been adopted by the central banks and financial authorities of some of the world's leading economies. There have also been concerns over unrest in the Middle East and Africa, which have resulted in volatility in oil and other markets, and over the possibility of a conflict involving Iran. There have also been concerns about the tensions in the relationship between China and Japan and about North Korea's nuclear program. Economic conditions in Taiwan are sensitive to global economic conditions. Any prolonged slowdown in the global or Taiwanese economy may have a negative impact on our business, results of operations and financial condition, and continued turbulence in the international markets may adversely affect our ability to access the capital markets to meet liquidity needs.

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 2015, 2016 and 2017, approximately 53.9%, 63.2% and 61.5% 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 near future. As a result of this regional customer concentration, we expect to be 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 PRC 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. Although we believe these reforms have had a positive effect on the business of our customers in the PRC and consequently have benefited us, 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 current or future 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 own 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 2017, 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 operating expenses (including for research and development, general and administrative, and sales and marketing expenses) are denominated in NT dollars and we maintain a portion of our cash in NT dollars for local working capital purposes. For example, in December 2017, approximately 65% of our operating expenses were denominated in NT dollars, with a small percentage denominated in Japanese Yen, Korean Won and Chinese Renminbi, and the majority of the remainder in U.S. dollars. However, the subsidiaries located in the R.O.C. adopted Taiwan-IFRS and hereafter changed their functional currency of the tax basis of assets and liabilities from NT dollar to U.S. dollar since year 2016. Accordingly, these subsidiaries are now having a U.S. dollar dominated tax basis and U.S. GAAP functional currency, which significantly decreases the income tax effect from the fluctuations in exchange rates between the U.S. dollar and the NT dollar.

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

Pursuant to the ROC Statute for Upgrading Industries, which expired at the end of 2009, companies were entitled to tax credits for expenses relating to qualifying research and development, personnel training and purchases of qualifying machinery. The tax credits could be applied within a five-year period. On May 12, 2010, the Statute for Industrial Innovation was promulgated in the ROC, which became effective on the same date except for the provision relating to tax incentives which went into effect retroactively on January 1, 2010. Compared to the ROC Statute for Upgrading Industries, the Statute for Industrial Innovation provides for less tax credits. 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, 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. However, the amendment is not expected to have a significant impact on our results of operations and financial condition.

In addition, unlike the ROC Statute for Upgrading Industries, the Statute for Industrial Innovation no longer provides companies deemed to be operating in important or strategic industries any tax exemption for income attributable to expanded production capacity or newly developed technologies. Pursuant to the ROC Statute for Upgrading Industries, beginning January 1, 2014, Himax Taiwan and Himax Semiconductor became entitled to preferential tax treatment, for a period of five years, which will expire on December 31, 2018. As a result of these preferential tax treatments, income attributable to certain of our expanded production capacity or newly developed technologies has been tax exempt for the relevant periods. The effect of such tax exemption under the ROC Statute for Upgrading Industries was an increase on net income and basic and diluted earnings per share attributable to our stockholders of \$1.8 million, \$0.01 and \$0.01, respectively, for the year ended December 31, 2015, \$3.9 million, \$0.01 and \$0.01, respectively, for the year ended December 31, 2016, and \$0.5 million, \$0.002 and \$0.002, respectively, for the year ended December 31, 2017. While the ROC Statute for Upgrading Industries expired at the end of 2009, under a grandfather clause we have continued to enjoy the five-year tax holiday since the relevant investment plans were approved by the ROC tax authority before the expiration of the Statute.

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:

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 (i) 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

A PSE is incorporated based on foreign legislation but its place of effective management (PEM) is maintained within the territory of the ROC, the head office of such PSE will be determined to be within the territory of the (ii) 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 and is expected to be in 2018 at the earliest. 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.

#### 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 \$4.88 to a high of \$13.95 on the NASDAQ Global Select Market in 2017.

The market price is subject to wide fluctuations in response to various factors, including the following:

- actual or anticipated fluctuations in our quarterly operating results;
- changes in financial estimates by securities research analysts;
- changes in the expectation of our non-driver product launch timing, forecast and estimates;
- conditions in the TFT-LCD panel market;
- changes in the economic performance or market valuations of other display semiconductor companies;
- announcements by us or our competitors of new products, acquisitions, strategic partnerships, joint ventures or capital commitments;
- the addition or departure of key personnel;
- fluctuations in exchange rates between the U.S. dollar and the NT dollar;

· litigation related to our intellectual property; and

· 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, 2018, we had 344,207,492 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. Future sales, or the perception of future sales, of ADSs or shares by us, our executive officers, directors or existing shareholders could cause the market price of our ADSs to 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, however, 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, and it is possible that you, 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 our 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 our 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. 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.

As a result of all of the above, 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 our 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 of the Cayman Islands 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 our shareholders and the fiduciary responsibilities of our 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. In addition, some U.S. states, such as Delaware, have more fully developed and judicially interpreted bodies of corporate law than the Cayman Islands.

For example, the Cayman Islands Companies Law differs from laws applicable to United States corporations and their shareholders in certain material respects which may affect shareholders' rights and shareholders' access to information. These differences under the Cayman Islands Companies Law(as compared to Delaware law) include, though are not limited to, the following:

directors who are interested in a transaction do not have a statutory duty to disclose such interest and there are no provisions under the Cayman Islands Companies Law which render such director liable to the company for any profit realized pursuant to such transaction. Our articles of association, however, contain provisions that require our directors to disclose their interest in a transaction;

dissenting shareholders do not have comparable appraisal rights if a scheme of arrangement is approved by the Grand Court of the Cayman Islands;

shareholders may not be able to bring class action or derivative action suits before a Cayman Islands court except in certain exceptional circumstances; and

unless otherwise provided under the memorandum and articles of association of the company, shareholders do not have the right to bring business before a meeting or call a meeting.

Moreover, certain of these differences in corporate law, including, for example, the fact that shareholders do not have the right to call a meeting or bring business to a meeting, may have anti-takeover effects, which could discourage, delay, or prevent the merger or acquisition of our company by means of a tender offer, a proxy contest or otherwise, which a shareholder may have considered in its best interest, and prevent the removal of incumbent officers and directors.

As a result of all of the above, public shareholders may have more difficulty in protecting their interests in the face of actions taken by management, members of the board of directors or controlling shareholders than they would have as public shareholders of a U.S. company.

Investor confidence and the market price of our ADSs may be adversely impacted if we or our independent registered public accountants conclude that our internal controls over financial reporting are not effective.

The Securities and Exchange Commission, or the SEC, as directed by Section 404 of the Sarbanes-Oxley Act of 2002, adopted rules requiring public companies to include in their Annual Report on Form 10-K or Form 20-F, as the case may be, a report of management on the company's internal controls over financial reporting that contains an assessment by management of the effectiveness of the company's internal controls over financial reporting. In addition, the company's independent registered public accounting firm must report on the company's internal control over financial reporting. Our management may conclude that our internal controls over financial reporting are not effective. Moreover, even if our management does conclude that our internal controls over financial reporting are effective, if our independent registered public accounting firm is not satisfied with our internal controls, the level at which our controls are documented, designed, operated or reviewed, or if our independent registered public accounting firm interprets the requirements, rules or regulations differently from us, then it may conclude that our internal controls over financial reporting are not effective. Furthermore, during the course of the evaluation, documentation and attestation, we may identify deficiencies that we may not be able to remedy in a timely manner. If we fail to achieve and maintain the adequacy of our internal controls, we may not be able to conclude that we have effective internal controls, on an ongoing basis, over financial reporting in accordance with the Sarbanes-Oxley Act. Furthermore, effective internal controls over financial reporting are necessary for us to produce reliable financial reports and are important to help prevent fraud. As a result, our failure to achieve and maintain effective internal controls over financial reporting could result in the loss of investor confidence in the reliability of our financial statements, which in turn could harm our business and negatively impact the trading price of our ADSs. In addition, we have incurred considerable costs and used significant management time and other resources in our effort to comply with Section 404 and other requirements of the Sarbanes-Oxley Act.

#### 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. From time to time, we have also made minority investments in various companies for strategic purposes in the ordinary course of business.

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.

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; and Irvine and Campbell, California, Minneapolis, Minnesota, USA.

Investor inquiries should be directed to our Investor Relations department, at +886-2-2370-3999 ext. 22202 or by email to [ophelia\\_lin@himax.com.tw](mailto:ophelia_lin@himax.com.tw). Our website is [www.himax.com.tw](http://www.himax.com.tw). The information contained on our website is not part of this annual report. Our agent for service of process in the United States is Puglisi & Associates located at 850 Library Avenue, Suite 204, Newark, Delaware 19711.

#### 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, 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, scaler products for monitors and projectors, tailor-made video processing IC solutions, silicon IPs and LCOS micro-displays for augmented reality (AR) devices and head-up displays (HUD) for automotive. We also offer digital camera solutions, including CMOS image sensors and wafer level optics for AR devices, 3D sensing and machine vision, which are used in a wide variety of applications such as mobile phone, tablet, laptop, TV, PC camera, automobile, security, medical devices and Internet of Things. 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 believe that our recognized leading design and engineering expertise, combined with our focus on customer service and close relationships with semiconductor manufacturing service providers, has contributed to our success.

## **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, scalars, 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 two main types of display drivers for a TFT-LCD 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.

*Scaler.* For certain displays, a scaler is installed to magnify or shrink image data in order for the image to fill the panel.

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

*Television Chipset.* Television flat panel displays require chipsets that typically contain all or some of the following components: an audio processor, analog interfaces, digital interfaces, a video processor, a channel receiver and a digital television decoder. See “—Products—TFT-LCD Television and Monitor Semiconductor Solutions—TFT-LCD Monitor Chipsets” for a description of these components.

*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 purpose 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, TFT-LCD panel manufacturers, in particular Taiwan-, Korea- and 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. However, 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 types and, to a lesser extent, COG package types, whereas display drivers for mobile handsets 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 a complex process 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 since replacement supplies may not be available on a timely basis or at all, given the customization of display drivers. As a result, a display driver 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 mobile handsets 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 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;

- TFT-LCD television and monitor semiconductor solutions;

- IP and ASIC service;

- LCOS and MEMS products;

- power ICs;

- CMOS image sensor products;

wafer level optics products; and

3D sensing total solutions.

## 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 ( $1,024 \times 3 = 384 \times 8$ ) and three 256-channel gate drivers ( $768 = 256 \times 3$ ), 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  $2^6 \times 2^6 \times 2^6 = 2^{18}$ , 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 7 up to 18 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 designs 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, CHPL, CDPI 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 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 and timing controllers 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 8K high-resolution TVs. Greater color depth, enhanced color through RGB independent

gamma and 3D display, are particularly important for advanced televisions and certain monitors.

In February 2009, we introduced timing controllers with the content adaptive brightness control, or CABC, technology. CABC technology controls backlight brightness intelligently by analyzing the content displayed to save power and enhance the contrast level while maintaining vivid display quality. Our algorithm enables a smooth adjustment in backlight brightness even when the content changes swiftly.

For notebook interface, our eDP 1.1 and eDP 1.2 timing controllers began mass production in 2011 and 2012 respectively. Our eDP 1.3 timing controller entered mass production in 2013 and was also adopted in the world's lightest notebook by our top-tier notebook brand customer. In 2015, we launched ultra-low power consumption eDP 1.4 timing controller that pairs with Nvidia G-Sync and AMD FreeSync™ technologies for graphic cards to process 3D graphics on ultra-high resolution displays in tablets, notebooks and monitors applications. These technological innovations were successfully adopted by various tier-one system customers in the following year. In 2017, our eDP timing controller that supports 4K UHD notebook began mass production. Eyeing on the growing gaming hardware and HDR market, we will advance our solutions to provide the best user experience in 2018.

In December 2010, Himax introduced programmable gamma OP with VCOM to provide reference voltages in TFT-LCD panels. Mass production of this product started in the second half of 2012. Programmable gamma OP is an individual component from driver IC and contains 8 to 16 programmable 10-bit DAC outputs and 1 to 2 voltage reference for VCOM. The VCOM reference voltage has its own 10-bit DAC and an amplifier to guarantee stable voltage when critical levels and patterns are displayed. Each DAC can be programmed separately by a 10-bit word to 1024 values.

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

Product	Features
TFT-LCD Source Drivers	<ul style="list-style-type: none"> <li>· 384 to 1920 output channels</li> <li>· 6-bit (262K colors), 8-bit (16 million colors) or 10-bit (1 billion colors)</li> <li>· one gamma-type driver</li> <li>· two gamma-type driver to improve display quality</li> <li>· three gamma-type drivers (RGB independent gamma curve to enhance color image)</li> <li>· output driving voltage ranging from 7 up to 18V</li> <li>· input logic voltage ranging from standard 3.3V to low power 1.8V and support half VDDA</li> <li>· low power consumption and low EMI</li> <li>· support COF and COG package types</li> <li>· support TTL, RSDS, mini-LVDS (up to 400MHz), cascade modulated driver interface, or CMDI, point-to-point high speed interface and customized interface technologies</li> <li>· support dual gate and triple gate panel designs</li> </ul>
TFT-LCD Gate Drivers	<ul style="list-style-type: none"> <li>· 192 to 1600 output channels</li> <li>· output driving voltage ranging from 10 up to 50v</li> <li>· input logic voltage ranging from standard 3.3V to low power 1.8V</li> <li>· low power consumption</li> <li>· support COF and COG package types</li> </ul>

Timing  
Controllers

- support dual gate and triple gate panel designs
- 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 TTL, RSDS, mini-LVDS, DETTL, turbo RSDS, CMDI, point-to-point high speed interface and customized output interface technologies
- embedded overdrive function to improve response time
- support CABC 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

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)	· 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
Source Drivers	· low power consumption and low EMI
Electronic Paper Display (EPD)	· 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
	· 100 to 840 output channels
Gate Drivers	· 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)	<ul style="list-style-type: none"> <li>· Highly integrated chip embedded with source driver, timing controller and power circuit</li> </ul>
Integrated Drivers	<ul style="list-style-type: none"> <li>· source driver output driving voltage ranging up to 30V</li> <li>· Support COG package types</li> </ul>

#### Mobile Handset, Tablet and Consumer Electronics Applications

We offer display drivers for mobile handset, tablet PC and consumer electronics (“CE”) displays 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, LTPS and AMOLED.

Smartphones and tablet PCs have gained greater popularity among consumers and enjoyed higher growth in recent years. This has also contributed to higher demand for mobile handset displays that have a larger size and higher resolution. 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 have recently continued to update new products for this mainstream smartphone and tablet PC segment with lower cost and new features, such as color enhancement and sun-light readability enhancement functions. A few years ago, we believe we developed the first HD720/WXGA display driver with compressed RAM technology, which we believe has led the industry migration to smartphones with higher resolution displays and lower power consumption. In 2013, we further applied the memory compression concept and developed frame buffer compression together with industrial leading AP (application processor) partners to reduce data transmission bandwidth between the AP and display driver IC of Himax. 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 applications to tablet PCs 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 new generation FHD+ TDDI with COG and COF are in design-in stage with a number of leading Chinese smartphone brands and panel makers. While COG TDDI offers cost effective slim bezel design, TDDI with COF package can enable super-slim bezel design for premium smartphone models. We expect small volume shipment in the first half of 2018 with accelerating volume in the second half of 2018. We believe new generation TDDI will have significant contribution for our small panel business starting 2018.



The following table summarizes the features of our products for mobile handsets:

<b>Product</b>	<b>Features</b>
Mobile Handset 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 mobile handset 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

#### 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-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 ration and reduction thermal in automotive display applications.

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

<b>Product</b>	<b>Features</b>
	<ul style="list-style-type: none"> <li>· 642 to 1,920 output channels</li> <li>· 6-bit (262K colors), 8-bit (16.7 million colors)</li> </ul>
TFT-LCD Source Drivers	<ul style="list-style-type: none"> <li>· support RSDS, mini-LVDS, Point-to-Point interfaces</li> <li>· output driving voltage ranging up to 15V</li> <li>· support COG package type</li> </ul>

Product	Features
TFT-LCD Gate Drivers	<ul style="list-style-type: none"> <li>· 100 to 1,600 output channels</li> <li>· output driving voltage ranging up to 40V</li> <li>· support COG package type</li> <li>· highly integrated chip embedded with source driver, timing controller and power circuit</li> <li>· support RGB, LVDS input interfaces</li> </ul>
TFT-LCD Integrated Drivers	<ul style="list-style-type: none"> <li>· support Single Gate, Dual Gate, Triple Gate panel structure</li> <li>· support GIP panel (a-TFT GIP or LTPS GIP) and non-GIP panel</li> <li>· support resolution up to 2880RBx1080 with cascaded chips</li> <li>· source driver output driving voltage ranging up to <math>\pm 6.6V</math> or 16V</li> <li>· support Fail Detect Function, including CRC Function</li> <li>· support COG package type</li> <li>· support LVDS, eDP 1.2 input interface</li> <li>· support RSDS, mini-LVDS, Point-to-Point output interfaces</li> <li>· support Single Gate, Dual Gate, Triple Gate panel structure</li> </ul>
Timing Controllers	<ul style="list-style-type: none"> <li>· support GIP panel (a-TFT GIP or LTPS GIP) and non-GIP panel</li> <li>· support various resolutions up to 4K1K(ICD) or 3K2K(CID)</li> <li>· support Local Dimming Function</li> <li>· support Fail Detect Function, including CRC Function</li> </ul>
Touch Controller ICs	

We offer touch controller solutions for capacitive touch panels. Our touch controller solutions are suitable for electronic devices employing touch panel screens of up to 13", such as smartphones, mobile internet devices and tablet

PCs. In the third quarter of 2011, we commenced shipping capacitive touch controller ICs to a worldwide brand smartphone customer. In 2013, we expanded our customers list to a lot more well-known smartphone and tablet PC brand customers.

Our capacitive touch controller possesses certain innovations and merits. It could support sensing and tracking of up to ten points. Its embedded micro-controller single chip solution contributes to reducing cost for flexible product design. 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 grew shipments of our touch controller product line with successful 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 endorsed by highly recognized end brands also caught the attention of leading in-cell panel makers. They have engaged us in the development of touch-display driver integrated circuit (TDDI) as a key strategic partner rather than just a display driver IC supplier. We have developed a series of TDDI in 2015 and 2016 for these tier one in-cell touch panel makers and started mass production in smartphone brands. We also expect to start the mass production of our TDDI in tablet PC soon. In-cell TDDI, featuring thinner display, slimmer border, and better visual quality, has become the mainstream technology. Over time 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:

<b>Product</b>	<b>Features</b>
Capacitive Touch Controller	<ul style="list-style-type: none"> <li>· complete single chip touch controller solutions for handheld devices, supporting smartphones, tablet PCs, and laptop PCs</li> <li>· real multi-point capability support of up to 10 points</li> <li>· mass production with GG, GFF and one glass solution ("OGS") without shielding layer</li> <li>· support ultra low cost one layer multi-touch (OLM) solution on GF, GG, OGS, or On-cell touch sensors</li> <li>· support advanced functions such as passive stylus, glove, proximity sensor replacement, etc</li> <li>· minimum components: simple, neat, and flexible mechanical design</li> <li>· touch-display driver integrated circuit (TDDI) for advanced in-cell touch display</li> <li>· extending from 16:9 to 18:9 or wider aspect ratio</li> </ul>

- COG and COF solutions for super slim bottom border



## TFT-LCD Television and Monitor Semiconductor Solutions

Himax Media Solutions, our subsidiary, provides TFT-LCD television and monitor semiconductor solutions.

### *TFT-LCD Monitor Chipsets*

The following table summarizes the features of our monitor scaler solutions:

Product	Features
Monitor Scaler Integrated Solutions	· ideal for monitor applications
	· integrated with high performance ADC and scaler
	· built-in HDMI 1.4a and DVI receiver
	· built-in audio digital-to-analog converter
	· built-in high performance color engine
	· integrated high speed MCU
	· integrated with timing control for additional cost-down
	· input /output resolutions range from 640 x 480 pixels up to 1,920 x 1,080 pixel.
	· integrated 2D to 3D conversion
	· integrated 3D format conversion
	· G5 1A and 1A1D can use the same PCB and reduce PCBA cost
	· G5 1A1D can resolve YCbCr color problem of DVI

In addition to scaler solutions, we expanded the product offering of monitor chipset solutions in 2013 to unveil the innovative 2D to 3D conversion solutions including RV2H and RV5 Pro. RV2H targets 2D-to-3D video conversion for projector application, and RV5 Pro targets at new 3D applications which can convert 2D/3D images into the 3D glasses-free in real time. This compact solution can be implemented in a number of hardware platforms, such as 3D

Glasses-free TV, Monitor, Digital signage, DPF, Amusement machine and Portable DVD. This compact solution has already been designed into products of a number of leading players in the industry. Our algorithm utilizes human visual perception characteristics, which not only reveals more 3D details but also offers a more comfortable and enjoyable viewing experiences.

The following table summarizes the features of our current RV2H conversion:

<b>Product</b>	<b>Features</b>
RV2H 2D to 3D Conversion Solutions	· support HDMI 1.4 3D format input including 3D format
	· support 2D mode, 2D to 3D mode, 3D to 2D mode and 3D bypass/converter mode
	· support resolution up to full HD with 10 bits deep color
	· built-in de-interlace and scaler
	· built-in 2D to 3D engine
	· built-in Frame rate conversion reaching 120Hz frame rate output
	· built-in 64 mega bits SDR chip
	· TTL interface supports up to 1920 x 1080 RGB 888 resolution
	· TTL interface supports up to 12 bits RGB/YUV
	· built-in 3D glass sync and L/R sync signal

Except for scalers and 2D to 3D solutions, we also extended the HDMI2.0 chipset product offerings in 2015 to meet the trend of high speed interface adoption. Below are two major and the most recent HDMI2.0 to Vx1 bridge products.

**Product**

**Features**

- support 1 HDMI 2.0 ports and is combo with MHL 2.0 receiver
- support HDMI 2.0 YCbCr 420/422/444 UHD 60Hz input
- support MHL 2.0 up to FHD 60Hz input
- support HDCP 2.2
- support HDMI 1.4 YCbCr 422/444 input
- support HDMI CEC 1.4
- support 1.4b 3D bypass
- support output 8-lane V-by-One HS Standard Version 1.4
- support up to 3.75Gbps/lane data rate, up to 8-lane, color depth 6-/8-/10-bit
- support Himax Advanced Color Engine – professional AC Edition
- embedded test pattern generator
- embedded hue/saturation, brightness/contrast, sharpness adjustment function
- embedded CABC (Content Adaptive Backlight Control)
- audio processor
- built-in 7.1 channel audio PCM sample rate converter (SRC) to 48KHz
- I2S interface support up to 192K Fs 7.1ch PCM and HD audio non-PCM output
- support OSD Generator and Display
- high performance 32-bit RISC CPU, with SPI flash interface
- support dithering function
- support Slave I2C programming interface

4Kx2K HDMI2.0 to Vx1 Simple Bridge  
HX6308 Solutions

**Product**

4Kx2K HDMI2.0 to Vx1 Bridge HX6310 Solutions

**Features**

- support 2 HDMI 2.0 ports and one of them is combo with MHL 2.0 receiver
- support HDMI 2.0 YCbCr 420/422/444 UHD 60Hz input
- support MHL 2.0 up to FHD 60Hz input
- support HDCP 2.2
- support HDMI 1.4 YCbCr 422/444 input
- support HDMI CEC 1.4
- support 1.4b 3D format
- support output 8-lane V-by-One HS Standard Version 1.4
- support up to 3.75Gbps/lane data rate, up to 8-lane, color depth 6-/8-/10-bit
- support Himax Advanced Color Engine – professional AC Edition
- embedded test pattern generator
- embedded hue/saturation, brightness/contrast, sharpness adjustment function
- embedded CABC (Content Adaptive Backlight Control)
- embedded 1D gamma correction LUT (Look-Up Table)
- audio processor
- built-in 7.1 channel audio PCM sample rate converter (SRC) to 48KHz
- built-in audio delay up to 100ms for Lip Sync (Not for SPDIF)
- I2S interface support up to 192K Fs 7.1ch PCM and HD audio non-PCM output
- built-in sound effect: EQ, Triple Bass, L/R Balance and Volume control
- built-in 2-ch audio DAC

- support UHD display for identification of 3D L/R frame and SG 3D out
- support major frame rate conversion
- support OSD Generator and Display
- high performance 32-bit RISC CPU, with SPI flash interface
- support dithering function
- support Slave I2C programming interface

#### IP and ASIC Service

From the fourth quarter of 2011, Himax Media Solutions, our subsidiary, developed a new business segment on IP and ASIC service. It is a brand new model based on our core technology of video display and High Speed Transmission. For video display related, we offer RGBW IP Technology Licensing. For High Speed Transmission related, we offer HDMI, V-by-One HS Silicon IP (SIP) Licensing. For ASIC service, it is based on an integrated and verified design platform of depth sensing and High Speed Transmission IPs to enable a time-to-market Specification-to-Chip ASIC service.

#### *Video IP*

As an expert player in image and display core technologies solutions, we develop and own unique IPs of image and video applications. The high quality IP, used in various products, can provide our licensees with differentiated products and advantage in time-to-market. The features of IPs are summarized in the following table:

<b>Product</b>	<b>Features</b>
RGBW IP	· Supporting, RGBW gray-level transform from RGB input, RGBW color enhancement and sub-pixel rendering.
	· Support color temperature adjustment
	· Support consistent color temperature
	· Support consistency of Gamma
	· Support 16 bytes of sub-pixel permutation
	· Support resolution: 3840x2160 @ 60Hz
	· Support bit depths
	· Input RGB30 per pixel
	· Output 30bit per pixel (3-channel data, whose representation depends on sub-pixel permutation configuration)
	· No SRAM for line buffer

#### Silicon IP

We also develop and own unique IPs of high speed transmission. These silicon IPs are not only silicon proven but also “product proven” and are used in various popular media commercial products. We provide our licensees with unique, high quality and cost competitive silicon IPs to reduce risk and accelerate time-to-market. The features of silicon IPs are summarized in the below table:

<b>Product</b>	<b>Features</b>
HDMI Receiver IP	· provide configurable HDMI digital controllers and high-speed mixed signal Physical Layer IP (“PHY”)
	· fully compliant with HDMI 1.4a/HDMI 2.0 specifications and received the ATC certification
VBO Transmitter and Receiver IP	· fully compliant with the V-by-One® HS Standard Version 1.4
	· provide configurable VBO digital controllers and high-speed mixed signal PHY

- designed for supporting high-speed video data transmission between the host device and display device, especially UltraHD TV application

## ASIC Service

From 2012, we had 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 Himax Media Solutions' 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, Himax Media Solutions 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 developed for the emerging ultra-low-power Computer Vision market.

The following table summarizes the features of our ASIC service:

Product	Features
ASIC Service	<ul style="list-style-type: none"> <li>· Well established ASIC development platform, based on our unique video processor and image processing technologies.</li> <li>· offer a wide variety of video interface IPs, like LVDS, HDMI, DVI, V-by-one, Display port, MIPI, MHL, etc.</li> <li>· built-in 8/32-bit microprocessor built-in video processing algorithm like super-high resolution, sun-light readable, MEMC, FRC, etc</li> </ul>
	<ul style="list-style-type: none"> <li>· built-in 3D feature technologies like 2D-to-3D, Glasses-free 3D, 3D multi-view, 3D visual protection, etc.</li> <li>· support 4K x 2K/ 5K x 2K/ 8K x 4K display</li> <li>· Depth sensing algorithm and hardware accelerator for 3D sensing and AR/VR applications</li> <li>· Low power Convolution Neural Network (CNN) algorithm and hardware accelerator for Computer Vision market</li> <li>· Ultra low power controller design for Always-on image sensing applications</li> </ul>

## 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 LED illumination system and the polarization beam splitter (PBS) and integrating them into the micro display module itself. Front-Lit™ LCOS enables a much simplified optical engine design and assembly process and successfully lowered customers' manufacturing time and costs.

Himax Display is the market leader of the LCOS industry based on market share since 2012 with the whole product line patented by the Company. 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.

Both technologies have their own merits for different applications in resolution, power consumption, size, cost, optical engine design, and image quality. We provide a rich products family for customers to choose for different applications, since each product has its own most important parameters to select. Himax Display provides choices to customers. The following table shows certain details of our products:

<b>Product</b>	<b>Size and Resolution</b>
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

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 Analogic, Inc., or Himax Analogic, our subsidiary, provides TFT-LCD television, monitor and notebooks power management solutions.

*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, 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**

	<ul style="list-style-type: none"> <li>· built-in power MOSFET</li> <li>· step-up PWM converter</li> <li>· charge pump regulator</li> <li>· LDO regulator</li> <li>· voltage detector</li> </ul>
Integrated Multi-Channel Power Solutions for Notebooks	<ul style="list-style-type: none"> <li>· gate pulse modulator</li> <li>· Vcom operational amplifier</li> <li>· 2ch programmable gamma voltage with operational amplifier</li> <li>· I2C programmable</li> <li>· low frame rate control for power saving solution</li> </ul>
Integrated Multi-Channel Power Solutions for Monitors	<ul style="list-style-type: none"> <li>· built-in power MOSFET</li> <li>· step-up PWM converter</li> <li>· HV LDO regulator</li> <li>· voltage detector</li> </ul>

- gate pulse modulator
- programmable Vcom voltage / Vcom operational amplifier
- programmable gamma voltage with operational amplifier
- level shifter
- built-in power MOSFET
- step-up PWM converter
- step-down PWM converter
- charge pump regulator
- HV LDO regulator

Integrated Multi-Channel Power Solutions for TVs

- voltage detector
- gate pulse modulator
- Vcom operational amplifier
- I2C programmable
- level shifter
- programmable gamma voltage with operational amplifier

*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**

16- channel level shifter for dual gate GOA TFT-LCD

**Features**

- support two kinds of T-con input signals
- up to 10clock channel output
- 2 channel STV

- 2 channel LC
- 2 discharge channel
- support charge sharing function
- reset function
- OTP / SCP

## 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. Based on the technologies and IP we developed, our product lines have been expanded to various applications. In early 2016, we decided to re-shape our strategies and put more focuses on the following three domains: ultra low power computer vision- Always-On Sensor (“AoS”), Near Infrared (“NIR”) sensor, and big pixel BSI sensors in automotive and surveillance.

Given that IoT applications bring a lot of demand and applications of ultra low power computer vision, we're developing the eyes for IoT. With our super low power AoS, we've already collaborated with algorithm and processor partners to build up a people detection camera system called WiseEye running in approximately 2.5mW. The WiseEye can be used in different kinds of applications, including smart office, smart building, surveillance, robotics, etc. In addition to developing the AoS product to drive the power as low as possible, we're also devoted ourselves in designing the industrial leading pixel with higher near infrared Quantum Efficiency (“QE”) to support the new generate 3D depth camera. 5MP UltraSense<sup>2</sup> is our 1<sup>st</sup> product in NIR sensor product line with QE over 50% in 850nm and around 35% in 940nm. Its superior performance hugely helps to lower the system power and 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. Regarding the conventional color sensors, we put the resource in more specialized and customized big pixel sensors for automotive and surveillance with higher value to the customers by providing unique features like better sensitivity in low light, high dynamic range, slim embedded ISP, etc.

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

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

Product	Features
13MP ViviSense2™ Color Image Sensor	<ul style="list-style-type: none"> <li>· 1/3.06” format color type</li> <li>· 13MP at 30 frames per second, support 1080p and 720p at 60 frames per second</li> <li>· High dynamic range supported by alternating row and alternating frame approaches</li> </ul>

	<ul style="list-style-type: none"><li>· Low power consumption</li><li>· 4-lane MIPI CSI2 outputs</li><li>· 1/4" format color type</li><li>· 8MP at 30 frames per second over 2-lane or 4-lane MIPI CSI2</li></ul>
8MP Vivisense2™ Color Image Sensor	<ul style="list-style-type: none"><li>· Phase Detection Auto Focus (PDAF) support</li><li>· Low power consumption</li><li>· Frame-Sync control for multiple camera system</li><li>· BSI in 1/3.2" format color type</li><li>· 8MP at 30 frames per second, support 1080p and 720p at 30 frames per second</li></ul>
8MP UltraSense™ Color Image Sensor	<ul style="list-style-type: none"><li>· High dynamic range supported by alternating row and alternating frame approaches</li><li>· Low power consumption</li><li>· 10 bit parallel video data port and 4-lane MIPI CSI2 outputs RAW8/10 and RGB565/555/444</li></ul>

Product	Features
5MP Vivisense™ Color Image Sensor	<ul style="list-style-type: none"> <li>· 1/4" format color type</li> <li>· 5MP resolution at 30 frames per second, support 720p HD at 83 frames per second and 1080 FHD at 56 frames per second</li> <li>· Compact die size design to support small modules</li> <li>· 4-lane MIPI CSI2 outputs RAW8/10</li> <li>· 1/2.6" format color type with high sensitivity BSI pixel</li> <li>· 5MP resolution at 45 frames per second, support QHD video at 60 frames per second</li> </ul>
5MP UltraSense 2™ NIR Sensor tailored for 3D Sensing	<ul style="list-style-type: none"> <li>· Compact die size design to support small modules</li> <li>· 4x NIR sensitivity at 940nm</li> <li>· 4-lane MIPI CSI2 outputs RAW8/10</li> </ul>
2.0MP ClearView™ Color Image Sensor	<ul style="list-style-type: none"> <li>· 1/5" format color type</li> <li>· UXGA YUV output at 30 frames per second, 720p HD resolution at 60 frames per second</li> <li>· 1-lane MIPI CSI2 outputs RAW8/10</li> <li>· 1/6" format with high sensitivity BSI pixel</li> <li>· 1080p HD resolution at 60 frames per second</li> </ul>
HD 1080p UltraSense™ Color Image Sensor	<ul style="list-style-type: none"> <li>· Low power consumption</li> <li>· Alternating frame support for HDR</li> <li>· Provide 2x2 RGB-IR option</li> <li>· 2-lane MIPI CSI2 outputs</li> <li>· Frame-Sync control for multiple camera system</li> <li>· 1/6.5" format with high sensitivity BSI pixel</li> </ul>

HD 720p UltraSense™ NIR Sensor tailored for 3D Sensing	<ul style="list-style-type: none"> <li>· 720p HD resolution at 60 frames per second</li> <li>· Low power consumption</li> <li>· Support Intel SSC function on MIPI I/F</li> <li>· 4x NIR sensitivity at 940nm</li> <li>· 1-lane MIPI CSI2 outputs RAW8/10</li> <li>· 1/9" format with high sensitivity BSI pixel</li> <li>· 720p HD resolution at 30 frames per second</li> </ul>
HD 720p UltraSense 2™ Color Image Sensor	<ul style="list-style-type: none"> <li>· Low power consumption</li> <li>· Support LED-sync for Microsoft Windows Hello</li> <li>· 1-lane MIPI CSI2 outputs RAW8/10</li> <li>· 1/13" format color type</li> <li>· VGA YUV output at 30 frames per second</li> </ul>
VGA BrightSense™ System on Chip	<ul style="list-style-type: none"> <li>· Color processing pipeline including lens correction, defect correction, color de-mosaic, color correction, gamma control, saturation/hue adjustment, and edge enhancement</li> <li>· Automatic low light and frame rate control</li> <li>· 1-lane MIPI CSI2 outputs RAW, YUV422, RGB565/555/444</li> </ul>
1.3MP ClearSense™ EDR Color Image Sensor embedded with image processor for Surveillance	<ul style="list-style-type: none"> <li>· 1/4" format with ultra high sensitivity</li> <li>· ClearSense™ achieves higher dynamic range in color up to 84dB with on-chip tone mapping</li> <li>· 800p and 720p resolution at 30 frames per second</li> <li>· Flexi™ engine automatically controls dynamic range, exposure, gain, and white balance to balance color fidelity and contrast</li> <li>· Color processing pipeline including lens shading correction, defect correction, edge enhancement, color interpolation and correction, gamma control, and saturation/hue adjustment.</li> <li>· Anti-blooming and dark sun cancellation</li> </ul>



- Built-in low dropout regulator and power on reset
- 10 bit parallel video data port supports RAW, YUV422, and RGB565/555/444

## Product

## Features

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 105°C
- 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
- High sensitivity, low noise VGA sensor operating up to 60FPS
- Visible and near infrared sensitivity
- Operation up to 105°C
- Ultra-compact automotive package

NTSC/PAL WVGA Color Image System on embedded with image processor for Automotive and Surveillance

- 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

Ultra Low 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

## 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 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 1 customers in the AR/VR, mobile device and wearable front.

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

Product	Features
Refractive Optical Lens	<ul style="list-style-type: none"> <li>· for Micro Lens Array(MLA) illumination diffuser, lighting control, flux illumination lens, collimation lens, and compact size camera lens</li> </ul>
	<ul style="list-style-type: none"> <li>· provide multi-layer solution including optical AR coating, IR-cutting filter coating, aspheric surface</li> </ul>
	<ul style="list-style-type: none"> <li>· double-side manufacture process</li> <li>· already in mass production</li> </ul>
Diffractive Optical Element (DOE)	<ul style="list-style-type: none"> <li>· computational imaging, flux illumination , dot projector for 3D sensing, 3D reconstruction, gesture and illumination control</li> </ul>
	<ul style="list-style-type: none"> <li>· using WLO process to integral multi-layers DOE and refractive lens</li> <li>· provide customized solution for specific application</li> <li>· dot projector module solution for computer vision , 3D sensing, 3D reconstruction, gesture and illumination control</li> </ul>
Near Infrared(NIR) Projector Module	<ul style="list-style-type: none"> <li>· integral NIR Laser (830/850/940nm), optical system(refractive+ diffractive lens) and high precise active alignment assembly solution to provide the smallest form factor</li> </ul>
	<ul style="list-style-type: none"> <li>· Module design for smartphone and other mobile devices</li> <li>· provide customized module solution for different application</li> </ul>

### 3D Sensing Total Solutions

3D sensing can have a wide range of applications across smartphone, IoT, automotive, AR/VR, robotics, etc. We are very excited about the growth prospects it represents and believe 3D sensing will be our biggest long term growth engine. SLiM™ (Structured Light Imaging Module), our structured light based 3D sensing total solutions, which we announced jointly with Qualcomm in August 2017, brings together Qualcomm's industry leading 3D algorithm with Himax's cutting-edge design and manufacturing capabilities in optics and NIR sensors as well as our unique know-how in 3D sensing system integration. The Qualcomm/Himax solution is by far the best performing 3D sensing and face recognition total solution available for the Android smartphone market right now.

A total solution approach is essential for most of the Android OEMs because it substantially reduces the customer's integration complexity to a minimum. The majority of the key technologies inside the SLiM™ total solution is developed and supplied by Himax ourselves. These critical technologies include, on the projector end, DOE and collimator utilizing our world leading WLO technology, a tailor-made laser driver IC, and high precision active alignment for the projector assembly; and on the receiver end, a high efficiency near-infrared CMOS image sensor. Last but not least, Himax also developed an ASIC by incorporating Qualcomm's algorithm for 3D depth map generation. The fact that all of these critical components are developed in-house puts us in a unique leading position. It represents a very high barrier of entry for any potential competition and a much higher ASP and profit margin for us.

The Qualcomm/Himax solution is by far the highest quality 3D sensing total solution available for the Android market right now. It has the industry's best performance in all of dimension, 3D depth accuracy, indoor/outdoor sensitivity and power consumption. It passes the toughest eye safety standards with a proprietary glass broken detection mechanism to safeguard the user from any potential harm. Furthermore, we are the only solution to offer face recognition for secure online payment, a must-have feature for high end smartphones of the future. We are working with multiple tier-1 smartphone makers to launch 3D sensing on their premium smartphones.

Our SLiM™ solution is now ready for mass production. We have already achieved pretty satisfactory production yields in our internal pilot production. Given that SLiM is a highly integrated solution with ASPs much higher than those of individual components, by the time we start making shipment, it will be a major growth contributor to our top and bottom lines.

## Wafer Level Optics Products

WLO is one of the key technologies enabling 3D sensing, AR goggle devices, and many other applications. At present, 3D sensing is the top priority of our WLO business. 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 of 3D sensing while achieving superior performance.

## CMOS Image Sensor

Our NIR sensor is a critical part in the structured light 3D sensing total solution. Our NIR sensors' overall performance is far ahead of those of our peers in 3D sensing applications. We currently offer low noise HD, or 1 megapixel, and 5.5 megapixel NIR sensors and are planning to add more to further enrich our product portfolio. Our NIR sensors deliver superior quantum efficiency in the NIR range, especially over 940nm band which is critical for outdoor applications.

## 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 free up a smartphone's processor for other applications. We view this unique capability as a significant 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 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 3D sensing total solutions:

Product	Features
SLiM™ 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 < 1% within the entire operation range of 20cm-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

In an attempt to accelerate the adoption of 3D sensing for Android phones, in addition to SLiM™, we are also working on stereoscopic type 3D sensing as a lower cost alternative. Unlike SLiM™ which utilizes structure light to generate 3D, stereoscopic type uses two cameras to replicate 3D vision in nature, augmented by coded light for image depth enhancement. Both types of solutions offered by Himax operate on active NIR light source with high sensitivity NIR sensors, thus working well even under extreme brightness or total darkness. For 3D sensing purposes, structure light approach offers better depth precision than stereoscopic type but the cost is also higher. By introducing stereoscopic 3D sensing, we aim to bring down the cost of 3D sensing so that it can be afforded by mass market smartphone models. We are pleased to report that development of stereoscopic 3D sensing total solution for face recognition and 3D features has been under way. Similar to our experience in SLiM™, we are working with some of the most prominent ecosystem partners in developing our stereoscopic 3D total solution. We will update progress in due course. While lower cost compared to structure light, stereoscopic 3D will still represent a much higher ASP and better gross margin potential for us.

#### 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 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, the totally new design CMOS sensor architecture and process gives the industry leading NIR Quantum Efficiency (QE) sensors which are specially designed for 3D applications. Our expertise in precision assembly in optics as well as ASIC and driver design additionally helps us to provide a more complete solution to our customers.



**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, mobile handsets 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, mobile handsets and consumer electronics products. We may sell our products through agents or distributors for certain products or in certain regions. As of December 31, 2017, we sold our products to more than 200 customers. Our ten largest customers together accounted for approximately 74.3%, 76.4% and 75.3% of our revenues in 2015, 2016 and 2017, respectively. In 2015, 2016 and 2017, our two largest customers accounted for 10% or more of our net revenue: customer A and its affiliates, accounted for 20.1%, 22.4% and 25.8% of our revenues, respectively; customer B and its affiliates, accounted for 21.1%, 15.2% and 15.5% of our revenues, 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 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 will form a strategic partnership with tier-1 customers for our LCOS microdisplays to penetrate into an emerging market. We believe we need this close relationship with our customers to create a new application eco system.

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 Shenzhen and Suzhou, China. We have other sales and technical support offices in Hefei, Beijing, Shanghai, Fuzhou, Foshan, Fuqing, Ningbo, Wuhan, Qindao, Chongqing, Xi'an and Xiamen, China; Tokyo, Japan; Asan-si and Bundang-gu, South Korea; and Irvine and Campbell, California, 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. This in-house facility provides color filter for CMOS image sensor products with over 50 million optics shipment record to tier-1 customers 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 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 commenced small-scale shipments in December 2009.

### 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 mobile handsets 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 February 2017 and will expire in September 2018. 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 March 2016 and will expire in March 2019, and OHSAS 18001 certification, which was renewed in December 2017 and will expire in January 2021.

#### 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, SMIC and Maxchip in the past few years and have also established relationships with UMC, HHNEC, PSC and SK Hynix. 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	Gold Bumping
Globalfoundries Singapore Pte., Ltd.	Chipbond Technology Corporation
Macronix International Co., Ltd.	Chipmore International Trading Company Ltd.
Maxchip Electronics Corp.	ChipMOS Technologies Inc.
Powerchip Technology Corporation	LB Semicon Co., Ltd.
Semiconductor Manufacturing International Corporation	Nepes Corporation
Shanghai Hua Hong NEC Electronics Company, Ltd.	Union Semi Conductor Co., Ltd.
SK Hynix	
Taiwan Semiconductor Manufacturing Company Limited	
United Microelectronics Corporation	
Vanguard International Semiconductor Corporation	
Processed Tape for TAB Packaging	Assembly and Testing
JMC Electronics Co., Ltd.	Ardentec Corporation
LG Innotek Co., Ltd.	Advanced Semiconductor Engineering Inc.
Stemco., Ltd.	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
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.  
Nepes Corporation

#### Intellectual Property

As of February 28, 2018, we held a total of 2,990 patents, including 1,356 in Taiwan, 939 in the United States, 619 in China, and 76 in other countries. The expiration dates of our patents range from 2019 to 2038. We also have a total of 93 pending patent applications in Taiwan, 113 in the United States and 227 in other jurisdictions, including the PRC, Japan, Korea and Europe. In addition, we have registered “Himax” and our logo as a trademark and service mark in Taiwan, China, Europe, Singapore, Korea and Japan and the United States.



## Competition

The markets 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 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., and Synaptics Incorporated. We also face competition from integrated device manufacturers, such as Rohm Co., Ltd.

Many of our competitors, some of whom are affiliated or have established relationships with other panel manufacturers, have longer operating histories, greater brand recognition and 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 touch controller ICs, we compete with worldwide suppliers, such as Cypress Semiconductor Corp., Synaptics Inc, FocalTech Systems Limited and Shenzhen Huiding Technology Co., Ltd.

Our monitor semiconductor solutions compete against solutions offered by a significant number of semiconductor companies including Mstar Semiconductor, Inc., Novatek Microelectronics Corp., and Realtek Semiconductor Corp. For 2D to 3D conversion solutions, we face competition from Mediatek Corp. and Mstar Semiconductor, Inc.

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 Global Mixed-mode Technology Inc., Advanced Analog Technology, Inc and On-Bright Electronics Co. We also compete with worldwide suppliers such as Maxim Integrated Products, Inc., Texas Instruments Incorporated 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. and Sony Corporation.

For wafer level optics products, we face competition primarily from Heptagon that was acquired by ams AG.

For 3D sensing, the Qualcomm/Himax solution is by far the best performing 3D sensing and face recognition total solution available for the Android smartphone market right now. Himax is the only one to provide the one-stop solution though there are more companies jumping into the game. ams AG will be the main competitor we face in the worldwide while Orbbec and Mantis Vision will be the competitors in China.

## **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**

The business of semiconductor design does not cause any significant pollution. Himax Taiwan maintains a color filter facility and a wafer level optics facility and Himax Display maintains a facility for our LCOS products, 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. 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, 2018.

The following table sets forth summary information for our subsidiaries as of February 28, 2018.

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 Semiconductor, Inc.	IC design and sales	ROC	100.0	%(1)
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	93.7	%(1)
Himax Imaging Corp.	IC design	California, USA	93.7	%(4)
Himax Media Solutions, Inc.	TFT-LCD television and monitor chipset operations, ASIC service and IP Licensing	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	64.0	%(1)
Himax IGI Precision Ltd.	3D micro and nano structure mastering and prototype replication	Delaware, USA	100.0	%(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 93.7% 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. The facility houses our research and development, engineering, sales and marketing, operations and general administrative staff.

We also lease office space in Taipei, Hsinchu and Tainan, Taiwan; Suzhou, Shenzhen, Foshan, Beijing, Shanghai, Ningbo, Wuhan, Hefei, Xiamen, Chongqing, China; Tokyo, Japan; Asan-si and Bundang-gu, South Korea; and Irvine and Campbell, California, 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.

We began construction of our new building in March 2017, located nearby the current headquarters. In 2017, our significantly higher than usual capital expenditures of \$39.8 million included the construction of a new building and facility \$18.5 million, WLO product line \$16.3 million and others \$5 million. The construction of a new building, located nearby the current headquarters, will house additional 8" glass WLO capacity, the new active alignment equipment needed for our SLiM™ 3D sensing solutions and provide extra office space. The construction of the new building has been completed on schedule. In 2017, we announced a capex plan of \$80 million (Phase I capital expansion), covering land, new building, facilities and clean room, which is on top of our regular capex and an unprecedented move in our history given our fabless nature. The Phase I capital expansion includes the construction of a new building, an increase of WLO capacity for the anchor customer and an initial monthly capacity of 2 million units for SLiM solution. In February 2018, we announced an increase to the Phase I budget from \$80 million to \$105 million. The addition of \$25 million is primarily for enhanced manufacturing automation and CIM infrastructure to achieve higher product yields and better production efficiency, an extra land of 1 hectare and more clean room and office space for future expansion. The Phase I is being executed as scheduled. Of the \$105 million budget, \$33 million has been paid out in 2017 with the remaining \$72 million expected to be paid in 2018.

#### ITEM 4A. UNRESOLVED STAFF COMMENTS

Not applicable.

## ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

### 5.A. Operating Results

#### 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, digital cameras, automobile, 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, scaler products for monitors and projectors, tailor-made video processing IC solutions, silicon IPs and LCOS micro-displays for augmented reality (AR) devices and head-up displays (HUD) for automotive. We also offer digital camera solutions, including CMOS image sensors and wafer level optics for AR devices, 3D sensing and machine vision, which are used in a wide variety of applications such as mobile phone, tablet, laptop, TV, PC camera, automobile, medical devices and Internet of Things. 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 and wafer level optics products, 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 2017 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 cyclicity 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 and exemptions.

## 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. 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.”

From 2011 to 2014, smartphone and tablet boom across the world created impressive demand of TFT-LCD panels. The phenomenal smartphone market growth naturally invited intense competition in the driver IC space, especially in the lower-end segments, resulting in severe ASP pressure. In the second half of 2015, over-supply issues happened to the large-sized TFT-LCD panel industry again. As high inventory level was built up in the first half of 2015 along with new capacity ramp from China panel makers, ASP pressure became intense as a result. In the first half of 2016, our large-sized display drivers suffered from another ASP erosion due to the oversupply in large-sized TFT-LCD panel industry. Large-sized display drivers and small and medium-sized panel driver business also experienced ASP erosion in 2017. In addition, our average selling prices are affected by the size and bargaining power of our customers. The merger of CMO, the predecessor of Innolux and TPO could negatively affect our ability to maintain, if not raise, our selling prices. In addition, 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. For example, as competitors have started to enter into the smartphone driver IC space and compete aggressively to get market share since the second quarter of 2012, average selling prices of smartphone driver IC for mid to low-end resolution have been under pressure since then. 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 which creates a higher barrier of entry, less competition and higher profit margins.

## 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.

#### 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. In addition, given that our non-driver products have higher gross margins and 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 2015, 2016 and 2017 was 76.4%, 75.8% and 75.6%, respectively. In 2017, as a percentage of Himax Taiwan's total manufacturing costs, the cost of wafer fabrication was 47.6%, the cost of processed tape was 9.9%, the cost of assembly and testing was 41.7% and overhead was 0.8%. 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, and assembly and testing costs 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 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 under the long-term incentive plan totaling \$6.2 million, \$10.1 million and \$6.9 million in 2015, 2016 and 2017, respectively. See “—Critical Accounting Policies and Estimates—Share-Based Compensation Expenses.” Of the total share-based compensation expenses recognized, \$4.5 million, \$9.2 million and \$6.1 million in 2015, 2016 and 2017, 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, 2015, 2016 and 2017 as reflected in our consolidated financial statements.

We made grants of 5,522,279 RSUs to our employees on September 26, 2012. The vesting schedule for such RSU grants is as follows: 58.36% of the RSU grants vested immediately and were settled by cash in the amount of \$6.3 million on the grant date, with the remainder vesting equally on each of September 30, 2013, 2014 and 2015, which will be settled by our ordinary shares, subject to certain forfeiture events.

We made grants of 867,771 RSUs to our employees on September 26, 2013. The vesting schedule for such RSU grants is as follows: 88.90% of the RSU grants vested immediately and were settled by cash in the amount of \$7.8 million on the grant date, with the remainder vesting equally on each of September 30, 2014, 2015 and 2016, which will be settled by our ordinary shares, subject to certain forfeiture events.

We made grants of 1,219,791 RSUs to our employees on September 26, 2014. The vesting schedule for such RSU grants is as follows: 82.57% of the RSU grants vested immediately and were settled by cash in the amount of \$9.3 million on the grant date, with the remainder vesting equally on each of September 30, 2015, 2016 and 2017, which will be settled by our ordinary shares, subject to certain forfeiture events.

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

#### Tax Credits and Exemptions

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

The ROC Statute for Upgrading Industries, which expired at the end of 2009, entitled companies to tax credits for expenses relating to qualifying research and development, personnel training and purchases of qualifying machinery. The tax credits could be applied within a five-year period. The amount of tax credit that could be applied in any year was limited to 50% of the income tax payable for that year (with the exception of the final year when the remainder of the tax credit could be applied without limitation to the total amount of the income tax). Under the ROC Statute for Upgrading Industries, Himax Taiwan was granted tax credits at rates set at a certain percentage of the amount utilized in qualifying research and development, personnel training expenses, purchases of qualifying machinery and investments in the newly emerging, important and strategic industries; provided that the shareholders' meeting of such ROC companies did not resolve to forfeit the shareholders' tax credit benefit in exchange for such ROC companies' five-years tax holiday. All remaining tax credits under this program were utilized by December 31, 2015.

Compared to the ROC Statute for Upgrading Industries, the Statute for Industrial Innovation provides for less tax credits. 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, 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.

The ROC Statute for Upgrading Industries provided to companies deemed to be operating in important or strategic industries a five-year tax exemption for income attributable to expanded production capacity or newly developed technologies. Such expanded production capacity or newly developed technologies was required to be funded in whole or in part from either the initial capital investment made by a company's shareholders, a subsequent capital increase or a capitalization of a company's retained earnings. As a result of this statute, income attributable to certain of Himax Taiwan's expanded production capacity is tax exempt for a period of five years, effective on January 1, 2014 and will expire on December 31, 2018. In addition, beginning January 1, 2014, Himax Semiconductor became entitled to a five-year tax exemption that will expire on December 31, 2018. While the ROC Statute for Upgrading Industries expired at the end of 2009, under a grandfather clause we have continued to enjoy the five-year tax holiday since the relevant investment plans were approved by the ROC tax authority before the expiration of the Statute. The effect of such tax exemption was an increase on net income and basic and diluted earnings per share attributable to our stockholders of \$1.8 million, \$0.01 and \$0.01, respectively, for the year ended December 31, 2015, \$3.9 million, \$0.01 and \$0.01, respectively, for the year ended December 31, 2016 and \$0.5 million, \$0.002 and \$0.002, respectively, for the year ended December 31, 2017. No such tax exemption is provided for under the newly adopted Statute for Industrial Innovation.



## Revenues

Historically, we have generated revenues from sales of display drivers for large-sized applications, display drivers for mobile handsets and display drivers for consumer electronics products. In addition, our product portfolio includes operational amplifiers, timing controllers, touch controller ICs, TFT-LCD television and monitor semiconductor solutions, LCOS microdisplay solutions, power ICs, CMOS image sensors, wafer level optics products, ASIC service and IP licensing.

Revenues generated from sales of display drivers for large-sized applications decreased slightly in 2015. Notably, TV application grew over 20% year-over-year, the highest growth since 2011. Revenues from large-sized application increased 21.6% in 2016. The strong year-over-year growth originated from our focus in China starting in 2012 and our efforts to achieve a more diversified customer base by adding new customers in Taiwan, China and Korea. Revenues from large-sized application decreased 17.6% in 2017. The year-over-year decline was mainly due to phase-out of certain customers' old models and the misses in certain customers' new design-in activities at the end of the fourth quarter of 2016 and the first quarter of 2017. In 2015, display drivers for mobile handsets applications declined mainly due to our key Korean end-customer's decision to substantially increase the portion of AMOLED panels in their smartphone portfolio and the weak smartphone sales in China. In addition, in 2015, the decline of worldwide tablet market resulted in the decrease in revenue of display drivers for consumer electronics application despite strong growth of display drivers for automotive applications. In 2016, display drivers for mobile handsets applications rebounded well, reflecting our leading position in the Chinese smartphone market where demand was stimulated by the rising adoption of 4G network and our end brand customers performed strongly in 2016. In 2017, display drivers for mobile handsets applications declined around 40.7% mainly due to the increasing adoption of TDDI solutions where we had a relatively slow start. Our non-driver products experienced tremendous growth during 2016, primarily driven by the LCOS and WLO businesses due to shipments to one of our leading AR device customers. Non-driver products decreased 3.6% year-over-year in 2017. This decline was primarily due to discontinuation of LCOS and WLO shipments to a major AR customer. Nevertheless, the Company's WLO business hit inflection in the middle of 2017 when it began mass shipment to an anchor customer.

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, 2015		2016		2017	
	Amount	Percentage of Revenues	Amount	Percentage of Revenues	Amount	Percentage of Revenues
	(in thousands, except percentages)					
Display drivers for large-sized applications	\$224,423	32.4	\$272,906	34.0	\$224,798	32.8
Display drivers for mobile handsets applications	170,705	24.7	191,845	23.9	113,591	16.6
Display drivers for consumer electronics applications	165,271	23.9	177,114	22.1	191,458	27.9
Others <sup>(1)</sup>	131,390	19.0	161,052	20.0	155,320	22.7
Total	\$691,789	100.0	\$802,917	100.0	\$685,167	100.0

Includes, among other things, timing controllers, touch controller ICs, TFT-LCD television and monitor Note:(1) chipsets, LCOS projector solutions, power management IC, CMOS image sensors, programmable gamma OP, wafer level optics products, scaler, NRE incomes, ASIC service and IP licensing.

A limited number of customers account for substantially all our revenues. For example, Customer A and its affiliates accounted for 20.1%, 22.4% and 25.8% of our revenues in 2015, 2016 and 2017, respectively. Customer B and its affiliates accounted for 21.1%, 15.2% and 15.5% of our revenues in 2015, 2016 and 2017, respectively.

	Year Ended December 31, 2015		2016		2017	
	Amount	Percentage of Revenues	Amount	Percentage of Revenues	Amount	Percentage of Revenues
	(in thousands, except percentages)					
Customer A and its affiliates	\$138,801	20.1	\$180,015	22.4	\$176,728	25.8
Customer B and its affiliates	146,209	21.1	121,972	15.2	106,380	15.5
Others	406,779	58.8	500,930	62.4	402,059	58.7
Total	\$691,789	100.0	\$802,917	100.0	\$685,167	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. Our sales to panel makers in China grew significantly in 2015, 2016 and 2017 due to the Chinese panel maker business expansion which started in 2011. These sales have become a significant portion of our revenue.

We derive substantially all of our revenues from sales to Asia-based customers whose end products are sold worldwide. In 2015, 2016 and 2017, approximately 36.8%, 24.9% and 25.8% of our revenues, respectively, were from customers headquartered in Taiwan and approximately 53.9%, 63.2% and 61.5% 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, bad debt expense, sales and marketing expenses and share-based compensation expenses.

#### 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 believe that we will need to continue to spend a significant amount on research and development in order to remain competitive. 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 2015, 2016 and 2017 were 13.6%, 11.9% and 17.2%, 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, rent 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 new building, and incur additional compliance costs required of a publicly listed company in the United States.

#### Bad Debt Expense

We evaluate our outstanding accounts receivable on a monthly basis for collectability purposes. In establishing an appropriate allowance for doubtful accounts, we consider our historical collection experience, current receivable aging and the current trend in the credit quality of our customers. In 2015, 2016 and 2017, we recognized bad debt expense of \$0.3 million, \$0.6 million and \$0.2 million, respectively.

#### 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, and 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 15 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 and September 29, 2017 to our employees. Share-based compensation expenses recorded under the long-term incentive plan totaled \$6.2 million, \$10.1 million and \$6.9 million in 2015, 2016 and 2017, respectively. See “—Critical Accounting Policies and Estimates—Share-Based Compensation” for further discussion of the accounting of such expenses.

## 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, certain tax holidays, as well as changes in our deferred tax assets and liabilities.

Our effective income tax rate was 34.7% in 2015, 18.0% in 2016 and 14.9% in 2017.

ROC law offers preferential tax treatments to industries that are encouraged by the ROC government. The ROC Statute for Upgrading Industries, which expired at the end of 2009, entitled companies to tax credits for expenses relating to qualifying research and development, personnel training expenses, purchases of qualifying machinery and investments in the newly emerging, important and strategic industries; provided that the shareholders’ meeting of such ROC companies did not resolve to forfeit the shareholders’ tax credit benefit in exchange for such ROC companies’ five-year tax holiday. The tax credits could be applied within a five-year period. The amount from the tax credit that could be applied in any year (with the exception of the final year when the remainder of the tax credit could be applied without limitation to the total amount of the income tax payable) was limited to 50% of the income tax payable for that year. Under the ROC Statute for Upgrading Industries, Himax Taiwan was granted tax credits at rates set at a

certain percentage of the amount utilized in qualifying research and development, and personnel training expenses. All remaining tax credits under this program were utilized by December 31, 2015.

Compared to the ROC Statute for Upgrading Industries, the Statute for Industrial Innovation provides for less tax credits. 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, 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.

Under the ROC Statute for Upgrading Industries and the applicable grandfather clause, income attributable to certain of Himax Taiwan's expanded production capacity is tax exempt for a period of five years, effective on January 1, 2014 and will expire on December 31, 2018. In addition, beginning January 1, 2014, Himax Semiconductor is also entitled to a five-year tax exemption that will expire on December 31, 2018. Based on the ROC statutory income tax rate of 17%, the effect of these tax exemptions on net income and basic and diluted earnings per ordinary share attributable to our stockholders had been an increase of \$1.8 million, \$0.01 and \$0.01 for the year ended December 31, 2015, respectively, \$3.9 million, \$0.01 and \$0.01 for the year ended December 31, 2016, respectively and \$0.5 million, \$0.002 and \$0.002 for the year ended December 31, 2017, respectively. No such tax exemption is provided for under the newly adopted Statute for Industrial Innovation.

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 does not affect the amounts of the current or deferred taxes recognized for the year ended December 31, 2017. However, it will affect the Company’s current tax expense in the future, and deferred taxes will be remeasured in 2018, the period of enactment. The applicable combined tax rate for Taiwan will change from 23.85% to 23.44%, consisting of an aggregate calculation of the 20% statutory income tax, and the 5% undistributed earning tax.

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 U.S. GAAP.

#### Share-Based Compensation

Share-based compensation primarily consists of grants of non-vested or restricted shares of common stock, stock options and RSUs issued to employees. 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 over the service period. Share-based compensation expense estimates also take into account the number of shares awarded that management believes will eventually vest. We adjust our estimate for each period to reflect the current estimate of forfeitures. As of December 31, 2017, we based our share-based compensation cost on an assumed forfeiture rate of 0% per annum for RSUs issued in 2015, 1.8% per annum for RSUs issued in 2016 and 0% per annum for RSUs issued in 2017, respectively, under our long-term incentive plan. If actual forfeitures occur at a lower rate, share-based compensation costs will increase in future periods.



For our issuance of RSUs in 2015, 2016 and 2017, the fair value of the ordinary shares underlying the RSUs granted to our employees was \$7.92, \$8.30 and \$10.93 per unit, respectively, which was the closing price of our ADSs on September 25, 2015, September 28, 2016 and September 29, 2017, respectively.

#### Allowance for Doubtful Accounts, Sales Returns and Discounts

We reduce our revenues and accounts receivable for estimated sales discounts and product returns at the time revenues are recognized based primarily on historical discount and return rates. However, if sales discount and product returns for a particular fiscal period exceed historical rates, we may determine that additional sales discount and return allowances are required to properly reflect our estimated remaining exposure for sales discounts and product returns.

We evaluate our outstanding accounts receivable on a monthly basis for collectability purposes. In establishing an appropriate allowance for doubtful accounts, we consider our historical collection experience, current receivable aging and the current trend in the credit quality of our customers. In 2016 and 2017, the allowance and related charge to earnings for sales returns and discounts increased for product quality issues. The allowance and related charge to earnings for doubtful accounts increased primarily due to a customer under reorganization in 2016. The movement in the allowance for doubtful accounts, sales returns and discounts for the years ended December 31, 2015, 2016 and 2017 are as follows:

#### Allowance for doubtful accounts

Year	Balance at Beginning of Year (in thousands)	Charges to Earnings	Amounts Utilized	Balance at End of Year
2015	\$727	\$ 310	\$(262 )	\$ 775
2016	\$775	\$ 620	\$ -	\$ 1,395
2017	\$1,395	\$ 155	\$(1,550 )	\$ -

#### Allowance for sales returns and discounts

Year	Balance at Beginning of Year (in thousands)	Charges to Earnings	Amounts Utilized	Balance at End of Year
2015	\$868	\$ 8,887	\$(8,982 )	\$ 773
2016	\$773	\$ 10,624	\$(9,861 )	\$ 1,536
2017	\$1,536	\$ 8,720	\$(9,053 )	\$ 1,203

#### Inventory

Inventories 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 wafers and processed tape), direct labor and an appropriate proportion of production overheads. We also

write down excess and obsolete inventory to its estimated market value based upon estimations about future demand and market conditions. If actual market conditions are less favorable than those projected by management, additional future inventory write-downs may be required which could adversely affect our operating results. Once written down, inventories are carried at this lower amount until sold or scrapped. If actual market conditions are more favorable, we may have higher gross margin when such products are sold. Sales to date of such products have not had a significant impact on our gross margin. The inventory write-downs in 2015, 2016 and 2017 were approximately \$9.8 million, \$23.3 million and \$12.3 million, respectively, and were included in cost of revenues in our consolidated statements of income. The inventory write-downs amount in 2016 was related to certain aged inventories of traditional human vision CMOS image sensors and driver IC products. Earlier in 2016, we decided to focus our CIS business on smart sensor, machine vision segments, as opposed to the traditional human vision segments. As part of this new strategic direction, we made a decision to expedite the sales of some aged inventories of human vision sensors. We believe it is appropriate that we write-down the inventory in 2016, as we anticipate the need to offer discounted prices to accelerate the sales of some products and, for some other products where the potential revenues do not justify the efforts, stop the sales all together.

#### Impairment of Long-Lived Assets, Excluding Goodwill

We routinely review our long-lived assets that are held and used for impairment whenever events or changes in circumstances indicate that their carrying amounts may not be recoverable. The determination of recoverability is based on an estimate of undiscounted cash flows expected to result from the use of the asset and its eventual disposition. The estimate of cash flows is based upon, among other things, certain assumptions about expected future operating performance, average selling prices, utilization rates and other factors. If the sum of the undiscounted cash flows (excluding interest) is less than the carrying value, an impairment charge is recognized for the amount that the carrying value of the asset exceeds its fair value, based on the best information available, including discounted cash flow analysis. 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. Prior to evaluating goodwill for impairment, we evaluated the Company's long-lived assets for impairment. For CMOS image sensors and WLO these two asset groups, the undiscounted expected cash flows significantly exceeded the carrying amounts for CMOS image sensors and WLO asset group as of December 31, 2015, 2016 and 2017, respectively. No triggering events that would indicate potential impairment occurred for the other significant asset groups for the last three years. Consequently, we have not recognized any impairment charges on long-lived assets during the period from January 1, 2015 to December 31, 2017.

## Goodwill

We evaluate goodwill for impairment at least annually, and test for impairment between annual tests if an event occurs or circumstances change that would indicate that the carrying amount may be impaired. Impairment testing for goodwill is done at a reporting unit level. The goodwill impairment test is a two-step test. Under the first step, the fair value of the reporting unit is compared with its carrying value (including goodwill). If the fair value of the reporting unit is less than its carrying value, an indication of goodwill impairment exists for the reporting unit and we perform step two of the impairment test (measurement). Under step two, an impairment loss is recognized for any excess of the carrying amount of the reporting unit's goodwill over the implied fair value of that goodwill. The implied fair value of goodwill is determined by allocating the fair value of the reporting unit in a manner similar to a purchase price allocation. The residual fair value after this allocation is the implied fair value of the reporting unit goodwill.

We have two operating segments, which are also reportable segments. We have determined that we have four reporting units. However, most of the goodwill has been assigned to the Driver IC reporting unit, which is also an operating segment. Goodwill also exists in our Non-Driver Products reportable segment as of December 31, 2015, 2016 and 2017. The amount of such goodwill is immaterial.

Management elected to use the option to perform a qualitative assessment to determine whether it is more-likely-than-not that the fair value of these reporting units are less than their respective carrying amounts. Based on such qualitative assessments, management determined that it was not more-likely-than-not that the fair value of these reporting units are less than their respective carrying amounts. As such, performing the next step of the test impairment test for these reporting units was unnecessary. However, our conclusion could change in the future if market conditions change with respect to these reporting units.

## Product Warranty

Under our standard terms and conditions of sale, products sold are subject to a limited product quality warranty. We may receive warranty claims outside the scope of the standard terms and conditions. We provide for the estimated cost of product warranties at the time revenue is recognized based primarily on historical experience and any specifically identified quality issues. In 2015, the expenses for warranty increased for more product quality issues. However, customers asked to return the product when product quality issues happened, which resulted in less product warranty claims from 2016. The movement in accrued warranty costs for the years ended December 31, 2015, 2016 and 2017 is as follows:

Year

	Balance at Beginning of Year	Additions Charged to Expense	Amount Utilized	Balance at End of Year
	(in thousands)			
2015	\$103	\$ 1,121	\$ (997 )	\$ 227
2016	\$227	\$ 11	\$ (190 )	\$ 48
2017	\$48	\$ 146	\$ (154 )	\$ 40

#### Income Taxes

According to the amendments to the Income Tax Act enacted by the office of the President of the ROC on February 7, 2018, effective starting from January 1, 2018, dividends distributed by a Taiwan company to its foreign shareholders are subject to ROC withholding tax, the rate increased from 20% to 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 will be reduced from 10% to 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, 2017, we have not provided for retained earnings tax on the undistributed earnings of approximately \$594.5 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 \$593.8 million as of December 31, 2017. 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. At December 31, 2016 and 2017, the amount of cash and cash equivalents and investments in marketable securities available-for-sale held by Himax Taiwan were \$105.9 million and \$80.1 million, respectively, which are not available to fund our ultimate parent company's activities unless the cash is distributed.

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 balance sheets. Management must then assess the likelihood that the deferred tax assets will be recovered from future taxable income, and, to the extent it believes that recovery is not more likely than not, a valuation allowance is provided.

In assessing the ability to realize deferred tax assets, our management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets and therefore the determination of the valuation allowance are dependent upon the generation of future taxable income by the taxable entity during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of different liabilities, projected future taxable income and tax planning strategies in determining the valuation allowance.

We recognize the effect of income tax positions only if those positions are more likely than not to be sustained. We have to recognize income tax expenses when the possibility of tax adjustments made by the tax authority is greater than 50% in the future period. Changes in income tax recognition or measurement of previous periods are reflected in the period in which the change in judgment occurs.

A reconciliation of the beginning and ending amounts of uncertain tax positions is as follows:

	Year ended December 31,		
	2015	2016	2017
	(in thousands)		
Balance at beginning of year	\$ 788	\$ 1,335	\$ 1,052
Increase related to prior year tax positions	292	-	384
Decrease related to prior year tax positions	-	(292 )	(641 )
Increase related to current year tax positions	630	-	-
Settlements	(368 )	-	-
Lapse of statute of limitations	(7 )	(2 )	(41 )
Effect of exchange rate change	-	11	-
Balance at end of year	\$ 1,335	\$ 1,052	\$ 754

With the exception of Himax Taiwan, Himax Semiconductor, Himax Technologies Korea Ltd., or Himax Korea, Himax Technologies Japan Ltd., Himax Technologies (Suzhou) Co., Ltd., Himax Technologies (Shenzhen) Co., Ltd., and Himax Imaging Corp., most of our subsidiaries have generated tax losses since their inception and are not included in the consolidated tax filing with Himax Taiwan or other subsidiaries with taxable income. Valuation allowances for regular tax of \$32.4 million, \$36.5 million and \$41.0 million as of December 31, 2015, 2016 and 2017, respectively, and valuation allowances for undistributed earnings tax of \$11.9 million, \$14.7 million and \$17.9 million as of December 31, 2015, 2016 and 2017, respectively, were provided to reduce their deferred tax assets (consisting primarily of operating loss carryforwards and unused tax credit carryforwards) to zero because management believes it is unlikely that these tax benefits will be realized.

## Segment Reporting

We use the management approach in determining reportable operating segments. The management approach considers the internal organization and reporting used by our chief operating decision maker (CODM) for making operating decisions, allocating resources and assessing performance as the source for determining the Company's reportable segments.

Our CODM has been identified as the Chief Executive Officer, who regularly reviews operating results to make decisions about allocating resources and assessing performance for us.

Management of the Company has determined that we have two operating segments, Driver IC and Non-driver products, which are also reportable segments.

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 we report operating income (loss) in our consolidated statements of operations. Segment profit (loss) excludes income taxes, interest income and expense, foreign currency exchange gains and losses, equity in the earnings (losses) of affiliates, gains and losses on valuations of financial instruments and sales of investment securities, and other income and expenses.

## Consolidated Results of Operations

The following table sets forth a summary of our consolidated statements of income as a percentage of revenues:

	Year Ended December 31,		
	2015	2016	2017
Revenues	100.0 %	100.0 %	100.0 %
Costs and expenses:			
Cost of revenues	76.4	75.8	75.6
Research and development	13.6	11.9	17.2
General and administrative	2.7	2.5	3.0
Sales and marketing	2.8	2.4	3.0
Total costs and expenses	95.5	92.6	98.8



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Operating income	4.5	7.4	1.2
Non-operating income, net	0.3	-	3.2
Income tax expense	1.7	1.3	0.6
Net income	3.1	6.1	3.8
Net loss attributable to noncontrolling interests	0.5	0.2	0.3
Net income attributable to Himax stockholders	3.6	6.3	4.1

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016

*Revenues.* Our revenues decreased by 14.7% to \$685.2 million in 2017 from \$802.9 million in 2016. The decrease was attributable mainly to a 40.8% decrease in revenues from display drivers for mobile handsets to \$113.6 million in 2017 from \$191.8 million in 2016, caused by weak sentiment in the China market and the increasing adoption of TDDI solutions where we had a relatively slow start. The display drivers for large-sized applications also recorded a 17.6% decrease to \$224.8 million in 2017 from \$272.9 million in 2016, primarily was caused by phase-out of certain customers' old models and the misses in certain customers' new design-in activities at the end of the fourth quarter of 2016 and the first quarter of 2017. Additionally, a 3.6% decrease in revenues from non-driver products to \$155.3 million in 2017 from \$161.0 million in 2016, due to the discontinuation of LCOS and WLO shipments to one of major AR device customers who decided to end the product's production. Our average selling prices decreased by 4.7%, primarily due to the decrease from non-driver products, and our unit shipments decreased by 10.5% as a result of the decrease in our core driver IC business during 2017.

*Costs and Expenses.* Costs and expenses decreased by 9.0% to \$677.0 million in 2017 from \$743.7 million in 2016. As a percentage of revenues, costs and expenses increased to 98.8% in 2017 compared to 92.6% in 2016.

*Cost of Revenues.* Cost of revenues decreased to \$518.1 million in 2017 from \$608.6 million in 2016. The decrease in cost of revenues was due primarily to a 10.5% decrease in unit shipments in 2017, as compared to 2016. Inventory write-downs, which are included in cost of revenues, significantly decreased to \$12.3 million in 2017 from \$23.3 million in 2016. The inventory write-downs amount in 2016 was related to certain aged inventories of traditional human vision CMOS image sensors and driver IC products. Earlier in 2016, we decided to focus our CIS business on smart sensor, machine vision segments, as opposed to the traditional human vision segments. As part of this new strategic direction, we made a decision to expedite the sales of some aged inventories of human vision sensors. We believe it is appropriate that we write-down the inventory in 2016, as we anticipate the need to offer discounted prices to accelerate the sales of some products and, for some other products where the potential revenues do not justify the efforts, stop the sales all together. As a percentage of revenues, cost of revenues decreased to 75.6% in 2017 from 75.8% in 2016.

*Research and Development.* Research and development expenses increased by 22.9% to \$117.8 million in 2017 from \$95.8 million in 2016. This increase was primarily attributable to increases in salary expenses \$6.7 million and tape-out expense \$12.0 million to capture the increasing business opportunities. The increase in salary expenses was due primarily to a larger headcount of research and development staff, higher average salaries and NT dollar appreciation.

*General and Administrative.* General and administrative expenses increased by 2.5% to \$20.6 million in 2017 from \$20.1 million in 2016, primarily as a result of increases in professional fee.

*Sales and Marketing.* Sales and marketing expenses increased by 9.9% to \$20.3 million in 2017 from \$18.5 million in 2016, primarily resulting from increases in salary expenses. The increase in salary expenses was due primarily to larger headcount of sales and marketing staff and higher average salaries.

*Non-Operating Income, net.* We had net non-operating income of \$22.2 million in 2017 compared to \$0.2 million in 2016. We recognized gain on sale of securities, net of \$23.2 million, among which, \$23.0 million from disposal of non-marketable equity security, but offset by foreign currency exchange losses, net of \$1.5 million in 2017.

*Income Tax Expense.* Our income tax expense decreased to \$4.5 million in 2017 from \$10.7 million in 2016. Our effective income tax rate decreased to 14.9% from 18.0% in 2016. The decrease in our effective income tax rate was primarily attributable to the lower withholding tax rate on gain on disposal of non-marketable equity security \$23.0 million in 2017.

*Net Income.* As a result of the foregoing, our net income decreased to \$25.8 million in 2017 from \$48.7 million in 2016 and net income attributable to Himax stockholders decreased to \$28.0 million in 2017 from \$50.9 million in 2016.

Year Ended December 31, 2016 Compared to Year Ended December 31, 2015

*Revenues.* Our revenues increased by 16.1% to \$802.9 million in 2016 from \$691.8 million in 2015. The growth was from our driver and non-driver products, both of which performed strongly. This increase was attributable mainly to a 21.6% increase in revenues from display drivers for the large-sized applications to \$272.9 million in 2016 from \$224.4 million in 2015, primarily originated from the Company's focus in China starting in 2012 and its efforts to achieve a more diversified customer base by adding new customers in Taiwan, China and Korea. This increase was also attributable mainly to a 9.8% increase in revenues from display drivers for mobile handsets and consumer electronics applications to \$369.0 million in 2016 from \$336.0 million in 2015. Contributing to this growth was the strong momentum in driver ICs for smartphone and automotive applications. Additionally, a 22.6% increase in revenues from non-driver products to \$161.0 million in 2016 from \$131.4 million in 2015, due to higher LCOS and WLO shipments to a major AR customer in 2016, also contributed to the revenues growth. Our average selling prices increased by 3.8%, primarily due to the contribution from non-driver products, and our unit shipments increased by 11.8% as a result of the increased market share in our core driver IC business and tremendous growth experienced on our non-driver products during 2016.

*Costs and Expenses.* Costs and expenses increased by 12.5% to \$743.7 million in 2016 from \$661.1 million in 2015. As a percentage of revenues, costs and expenses decreased to 92.6% in 2016 compared to 95.5% in 2015.

*Cost of Revenues.* Cost of revenues increased to \$608.6 million in 2016 from \$528.7 million in 2015. The increase in cost of revenues was due primarily to an 11.8% increase in unit shipments in 2016, as compared to 2015. Inventory write-downs, which are included in cost of revenues, significantly increased to \$23.3 million in 2016 from \$9.8 million in 2015. The inventory write-downs amount in 2016 was related to certain aged inventories of traditional human vision CMOS image sensors and driver IC products. Earlier in 2016, we decided to focus our CIS business on smart sensor, machine vision segments, as opposed to the traditional human vision segments. As part of this new strategic direction, we made a decision to expedite the sales of some aged inventories of human vision sensors. We believe it is appropriate that we write-down the inventory in 2016, as we anticipate the need to offer discounted prices to accelerate the sales of some products and, for some other products where the potential revenues do not justify the efforts, stop the sales all together. As a percentage of revenues, cost of revenues decreased to 75.8% in 2016 from 76.4% in 2015. The gross margin increased was primarily due to a more favorable product mix in display drivers for mobile handsets and consumer electronics applications, increased LCOS and WLO shipments for AR applications and certain engineering fees from AR/VR new project engagements, which was partially offset by the aforementioned inventory write-down.

*Research and Development.* Research and development expenses increased by 1.5% to \$95.8 million in 2016 from \$94.4 million in 2015. This increase was primarily attributable to increases in salary expenses but partially offset by decreased tape-out expense. The increase in salary expenses was due primarily to a larger headcount of research and development staff, higher average salaries and higher RSU compensation.

*General and Administrative.* General and administrative expenses increased by 8.9% to \$20.1 million in 2016 from \$18.5 million in 2015, primarily as a result of increases in salary expenses. The increase in salary expenses was due to higher average salaries and higher RSU compensation.

*Sales and Marketing.* Sales and marketing expenses decreased by 3.9% to \$18.5 million in 2016 from \$19.3 million in 2015, primarily as a result of decreases in salary expenses. The decrease in salary expenses was due primarily to lower headcount of sales and marketing staff and partially offset by higher RSU compensation.

*Non-Operating Income, net.* We had net non-operating income of \$0.2 million in 2016 compared to \$2.2 million in 2015. We recognized interest income and dividend income of \$1.2 million and \$0.7 million, respectively in 2016, but offset by equity in losses of equity method investees and interest expense of \$1.3 million and \$0.6 million, respectively in 2016. Further, we recognized gain on disposal of investments, net of \$2.0 million in 2015.

*Income Tax Expense.* Our income tax expense decreased to \$10.7 million in 2016 from \$11.4 million in 2015. Our effective income tax rate decreased to 18.0% from 34.7% in 2015. The decrease in our effective income tax rate was primarily attributable to the appreciated NT dollar against the U.S. dollar in 2016 compared to 2015. However, the

depreciated NT dollar against the U.S. dollar in 2015 compared to 2014.

*Net Income.* As a result of the foregoing, our net income increased to \$48.7 million in 2016 from \$21.5 million in 2015 and net income attributable to Himax stockholders increased to \$50.9 million in 2016 from \$25.2 million in 2015.

## Segment Results

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

	Year Ended December 31,		
	2015	2016	2017
	(in thousands)		
Segment Revenues			
Driver IC	\$560,399	\$641,865	\$529,847
Non-Driver Products	131,390	161,052	155,320
Total	\$691,789	\$802,917	\$685,167

	Year Ended December 31,		
	2015	2016	2017
	(in thousands)		
Segment Operating Income (loss)			
Driver IC	\$59,506	\$92,010	\$43,021
Non-Driver Products	(28,834)	(32,775)	(34,871)
Total	\$30,672	\$59,235	\$8,150

### *Driver IC Segment*

#### Year Ended December 31, 2017 Compared to Year Ended December 31, 2016

*Segment revenues.* Our revenues from the Driver IC segment decreased by 17.5% to \$529.9 million in 2017 from \$641.9 million in 2016. The decrease was mainly from the decrease in display drivers for mobile handsets application and large-sized application. This decrease was attributable to a 14.3% decrease in unit shipments of our driver IC products and a 3.7% decrease in our average selling price.

*Segment operating income.* Operating income from the Driver IC segment decreased to \$43.0 million in 2017 from \$92.0 million in 2016. This decrease was primarily attributable to a decrease in revenues in 2017 as compared to 2016. As a percentage of segment revenues, segment operating income decreased to 8.1% in 2017 from 14.3% in 2016. This decrease was attributable to the increase in the operating expense for the Driver IC year-over-year.

#### Year Ended December 31, 2016 Compared to Year Ended December 31, 2015

*Segment revenues.* Our revenues from the Driver IC segment increased by 14.5% to \$641.9 million in 2016 from \$560.4 million in 2015. The increase was from all the driver product lines for large-size applications, mobile handsets application and consumer electronics application. The growth was attributable mainly to a 21.6% increase in revenues from display drivers for the large-sized applications, originated from the Company's focus in China starting in 2012 and its efforts to achieve a more diversified customer base by adding new customers in Taiwan, China and Korea. This increase was attributable to an 18.2% increase in unit shipments of our driver IC products but partially offset by a 3.1% decrease in our average selling price.

*Segment operating income.* Operating income from the Driver IC segment increased to \$92.0 million in 2016 from \$59.5 million in 2015. This increase was primarily attributable to an increase in revenues in 2016 as compared to

2015. As a percentage of segment revenues, segment operating income increased to 14.3% in 2016 from 10.6% in 2015. The increase was mainly from improved gross margin due to a more favorable product mix.

*Non-Driver Products Segment*

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016

*Segment revenues.* Our revenues from the Non-Driver Products segment decreased by 3.6% to \$155.3 million in 2017 from \$161.0 million in 2016. The decline was due to the discontinuation of LCOS and WLO shipments to one of our major AR device customers who decided to end the product's production. This decrease was attributable mainly to a 11.5% decrease in average selling price of our non-driver products.

*Segment operating loss.* Operating loss from the Non-Driver Products segment increased to \$34.9 million in 2017 from \$32.8 million in 2016. The operating loss increases was attributable mainly to the decrease in revenues and increase in operating expense.

Year Ended December 31, 2016 Compared to Year Ended December 31, 2015

*Segment revenues.* Our revenues from the Non-Driver Products segment increased by 22.6% to \$161.0 million in 2016 from \$131.4 million in 2015. This growth was primarily due to higher LCOS and WLO shipments to a major AR customer in 2016. This increase was attributable mainly to a 39.4% increase in average selling price of our non-driver products.

*Segment operating loss.* Operating loss from the Non-Driver Products segment increased to \$32.8 million in 2016 from \$28.8 million in 2015. The operating loss increases was attributable mainly to the above-mentioned inventory write-downs related to certain aged inventories of traditional human vision CMOS image sensors.

## 5.B. Liquidity and Capital Resources

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

As of December 31, 2017, we had total current assets of \$661.4 million, total current liabilities of \$337.2 million and cash and cash equivalents of \$138.0 million. As of December 31, 2017, we had total short-term debt of \$147.0 million with equal amounts of cash and time deposits as collateral and did not have any outstanding long-term borrowings. We believe that our working capital is sufficient for our present requirements.

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

	Year Ended December 31,		
	2015	2016	2017
	(in thousands)		
Net cash provided by operating activities	\$22,529	\$84,672	\$29,393
Net cash used in investing activities	(28,342 )	(7,127 )	(35,088 )
Net cash used in financing activities	(49,608 )	(22,715 )	(41,214 )
Net increase (decrease) in cash and cash equivalents	(55,637 )	54,623	(46,429 )
Cash and cash equivalents at beginning of period	185,466	129,829	184,452
Cash and cash equivalents at end of period	129,829	184,452	138,023

*Operating Activities.* Net cash provided by operating activities in 2017 was \$29.4 million compared to \$84.7 million in 2016. This decrease in net cash provided by operating activities in 2017 was due to lower net profit, an increase in cash used for raw materials, assembly, testing process fees in 2017 compared to 2016, partially offset by an increase in cash collected from customers in 2017 compared to 2016 as we had a relatively high accounts receivable balance at the beginning of year. Net cash provided by operating activities in 2016 was \$84.7 million compared to \$22.5 million in 2015. This increase in net cash provided by operating activities in 2016 was due primarily to improved profitability, a decrease in cash used for raw materials, assembly, testing process fees and inventories in 2016 compared to 2015, partially offset by a decrease in cash collected from customers in 2016 compared to 2015 as we had a relatively high accounts receivable balance at the end of year.



*Investing Activities.* Net cash used in investing activities in 2017 was \$35.1 million compared to \$7.1 million in 2016. This increase in net cash used in investing activities was due primarily to an increase in cash used for purchasing of property, plant and equipment in 2017 compared to 2016, an increase in cash used for purchasing of equity method investment, but offset by an increase in cash provided by disposal of investment in non-marketable equity securities in 2017 compared to 2016. Net cash used in investing activities in 2016 was \$7.1 million compared to \$28.3 million in 2015. This decrease in net cash used in investing activities in 2016 was due primarily to a decrease in cash used for purchasing of investment securities in 2016 compared to 2015 but offset by an increase in cash used for other receivable from related parties in 2016 compared to 2015.

*Financing Activities.* Net cash used in financing activities in 2017 was \$41.2 million compared to \$22.7 million in 2016. This increase was due primarily to an increase in distribution of cash dividends. Net cash used in financing activities in 2016 was \$22.7 million compared to \$49.6 million in 2015. This decrease was due primarily to a decrease in distribution of cash dividends.

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. Other customers have also requested extension of payment terms and we may grant such requests for extensions in the future. 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 \$10.0 million, \$7.9 million and \$39.8 million in 2015, 2016 and 2017, respectively. In 2017, our significantly higher than usual capital expenditures of \$39.8 million included the construction of a new building and facility \$18.5 million, WLO product line \$16.3 million and others \$5 million. The construction of a new building, located nearby the current headquarters, will house additional 8" glass WLO capacity, the new active alignment equipment needed for our SLiM™ 3D sensing solutions and provide extra office space. The construction of the new building has been completed on schedule. In 2017, we announced a capex plan of \$80 million (Phase I capital expansion), covering land, new building, facilities and clean room, which is on top of our regular capex and an unprecedented move in our history given our fabless nature. The Phase I capital expansion includes the construction of a new building, an increase of WLO capacity for the anchor customer and an initial monthly capacity of 2 million units for SLiM solution. In February 2018, we announced increasing the Phase I budget from \$80 million to \$105 million. The addition of \$25 million is primarily for enhanced manufacturing automation and CIM infrastructure to achieve higher product yields and better production efficiency, an extra land of 1 hectare and more clean room and office space for future expansion. The Phase I is being executed as scheduled. Of the \$105 million budget, \$33 million has been paid out in 2017 with the remaining \$72 million expected to be paid in 2018.

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 is 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 2015, 2016 and 2017, we incurred research and development expenses of \$94.4 million, \$95.8 million and \$117.8 million, respectively, representing 13.6%, 11.9% and 17.2% of our revenues, respectively.

#### 5.D. Trend Information

Looking into 2018, the Company's major growth engines will be, for large panel segment, China panel makers' increase in capacity, for small panel segment, in-cell TDDI for smartphone and driver ICs for automotive applications, and last but not the least for non-driver areas, increasing WLO revenue, and commencement of 3D sensing total solution shipment. 3D sensing will be Himax's biggest long term growth engine consequently creating a more favorable product mix for Himax.

Large display driver IC business experienced a strong growth momentum in the second half of 2017 as 4K TV penetration was still on the rise globally and China continued to ramp brand new advanced generation LCD fabs. Being a market leader in large display driver IC business, Himax will benefit from such capacity expansion. With the 2020 Tokyo Olympics approaching, the ecosystem for super-high-resolution TV is being established, hoping to catch the business opportunity arising from the 8K program broadcast at the event. At CES in 2018, major TV manufacturers have unveiled their 8K TV with Himax solutions inside. Himax will continue working with major panel makers for the development of next generation 8K TVs.

Our small and medium-sized driver sales recorded a year-over-year decline in 2017 due to overall smartphone market weakness, largely caused by the increasing adoption of TDDI solutions where we had a relatively slow start. Himax has secured numerous TDDI design-wins for HD+ and FHD+ projects with top-tier names. We are confident that our TDDI solutions and display driver IC business will accelerate in 2018. On the high side, our new generation FHD+ TDDI with COF (chip on film) package is in design-in stage with a number of leading Chinese smartphone brands and panel makers. TDDI with COF package can enable super-slim bezel design for premium smartphone models. Himax expects small volume shipment in the first half with accelerating volume in the second half of 2018. Our driver IC business is also expanding into new areas such as smart home assistant segment. Such activities should help to cause a future rebound in sales momentum.

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.

While 3D sensing can have a wide range of applications across smartphone, IoT, automotive, AR/VR, robotics, etc., our current target market is primarily the smartphone. SLiM™ (Structured Light Imaging Module), our turn-key total solution, has already achieved the performance, size, power consumption, and costs suitable for smartphones. We believe our total solution approach in 3D sensing will help reduce the customer's integration complexity to a minimum and is essential for most of the Android OEMs. Himax SLiM™ total solution is now ready for mass production. We are working with multiple tier-1 Android smartphone makers to launch 3D sensing on their premium smartphones.

The CES Show in January 2018 showcased the fast-growing, multi-billion dollar AR/VR sector under development. Many companies, be the top name multinationals or new start-ups, are investing heavily to develop the ecosystem — applications, software, operating system, system electronics, and optics. With all these investments, we believe the AR goggle market will be back in an accelerating mode again. Having invested in the technologies for over 15 years, Himax is uniquely positioned as the provider of choice for microdisplay and related optics to enable AR.

It is expected that Chinese panel makers will further expand their TFT-LCD and AMOLED capacity in the next few years. The significant increase in output offers attractive driver ICs business opportunities for Himax. However, we would like to caution that this might lead to over-supply in panels and growing bargaining power of Chinese panel makers at the same time, potentially resulting in more severe ASP pressure.

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, 2017, 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, 2017, 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, 2017:

	Payment Due by Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
	(in thousands)				
Short-term debt	147,000	147,000	-	-	-
Operating lease obligations	3,241	1,122	1,265	616	238
Purchase obligations <sup>(1)</sup>	282,478	282,478	-	-	-
Other obligations <sup>(2)</sup>	538	370	168	-	-
Total	433,257	430,970	1,433	616	238

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

(2) Includes obligations under license agreements and donations for laboratory commitments.

As of December 31, 2017, the short-term debt consisted of bank loans with interest rates per annum that ranged from 0.35% to 0.58%, and cash and marketable securities totaling \$147,000 thousand are pledged as collateral.

We lease office and building space pursuant to operating lease arrangements with unrelated third parties. In 2015, 2016 and 2017, rental expenses for operating leases amounted to \$2.1 million, \$2.1 million and \$2.2 million, respectively. The lease arrangements will expire gradually from 2018 to 2024. As of December 31, 2017, we agreed to make future minimum lease payments of \$1.1 million, \$0.8 million, \$0.5 million, \$0.3 million and \$0.3 million in 2018, 2019, 2020, 2021 and 2022, respectively, under non-cancelable operating leases.

We have, from time to time, entered into contracts for the acquisition of building, equipment and computer software and construction of new building. As of December 31, 2017, the remaining commitments under such contracts were \$40.8 million. These outstanding contracts had a total contract value of \$60.6 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. Due to the current market is facing a capacity shortage of wafer fabrication, the Company has increased its placing of purchase orders to meet the sufficient capacity supply from foundries for year 2018. As of December 31, 2017, our contractual obligations pursuant to such arrangements amounted to approximately \$193.4 million expected to be consumed to third quarter of 2018.

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 2017 were \$3.4 million compared to \$2.8 million and \$2.5 million in 2016 and 2015, respectively. Total contributions to the defined benefit plan and the new defined contribution plan in 2017 were \$3.4 million compared to \$2.8 million and \$2.5 million in 2016 and 2015,

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 -0.3%, 1.4% and 0.6% in 2015, 2016 and 2017, respectively.

#### Recent Accounting Pronouncements

For further information about recently adopted accounting standard updates and recently issued accounting standard updates in accordance with U.S. GAAP, see notes 2(v) and 2(w), respectively, to our consolidated financial statements.

Beginning January 1, 2018, we adopted International Financial Reporting Standards (“IFRS”) issued by the International Accounting Standards Board (“IASB”) to prepare our consolidated financial statements and to discontinue the use of U.S. GAAP financial reporting. Upon adoption of IFRS in 2018, we will also report comparative financial statements prepared in accordance with IFRS as of and for the year ended December 31, 2017, including applicable transition disclosures. We do not expect the transition from U.S. GAAP to IFRS to have any significant impact on the consolidated financial statements. In reaching this conclusion, we also considered in its assessment the expected impact on future periods of recently issued IFRS accounting standards with mandatory future adoption dates.

IFRS 15 Revenue from Contracts with Customers establishes a comprehensive framework for determining whether, how much and when revenue is recognized, and is effective for annual reporting periods beginning on or after January 1, 2018. IFRS 15 has the similar nature with Topic 606. We will adopt IFRS 15 from January 1, 2018 under the Cumulative effect method, and have determined the adoption of IFRS 15 will not have a significant impact on its consolidated financial statements.

IFRS 9 Financial Instruments includes guidance on the classification and measurement of financial instruments, including a new expected credit loss model for calculating impairment on financial assets, and the new general hedge accounting requirements. It also carries forward the guidance on recognition and derecognition of financial instruments from IAS 39, and is effective for annual reporting periods beginning on or after January 1, 2018. IFRS 9 has the similar nature with ASU 2016-01. As of December 31, 2017, we had \$10,879 thousand reported as investment in marketable securities available-for-sale, that will be reclassified to financial assets at amortized cost and financial assets at Fair Value Through Profit or Loss (FVTPL) at amounts of \$10,358 thousand and \$521 thousand,

respectively, on January 1, 2018 in accordance with IFRS 9.

IFRS 16 Leases establishes a single, on balance-sheet lease accounting model for lessees, and is effective for annual reporting periods beginning on or after January 1, 2019. IFRS 16 has the similar nature with ASU 2016-02. As of December 31, 2017, we are in the process of assessing the effects that adoption will have on our consolidated financial statements prepared in accordance with IFRS.



## 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, 2018. 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	60	Chairman of the Board
Jordan Wu	57	President, Chief Executive Officer and Director
Dr. Yan-Kuin Su	69	Director
Yuan-Chuan Horng	66	Director
Hsiung-Ku Chen	66	Director
Jackie Chang	58	Chief Financial Officer
Norman Hung	60	Vice President, Sales and Marketing

## 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 is currently the president of Kun Shan University 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 has retired from the position of the vice president of the Finance Division of China Steel Corporation effective November 30, 2016. Mr. Horng held various positions including general manager, assistant vice president and vice president in the Finance Division of China Steel Corporation Group over 30 years. 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

*Jackie Chang* is our chief financial officer. Before joining Himax, Ms. Chang served as the CFO of Castlink Corporation and Tongxing International, as well as the VP of Finance and Operations for PlayHut, Inc. Prior to joining PlayHut, Ms. Chang was General Manager –Treasury Control for Nissan North America. She held several positions in Nissan North America from 1994 to 2006 including finance, treasury planning, operations and accounting. She worked at Nissan JV in China from 2003 to 2006, where she implemented IFRS and SAP successfully. She holds a BBA in accounting from the National Chung-Hsing University in Taiwan and an MBA in Finance from Memphis State University.

*Norman Hung* is our 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.

#### 6.B. Compensation of Directors and Executive Officers

For the year ended December 31, 2017, the aggregate cash compensation that we paid to our executive officers was approximately \$0.8 million. The aggregate share-based compensation that we paid to our executive officers was

approximately \$0.2 million. In 2017, our executive officers 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, 2017, 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 2017 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	2,784	-	2,196	3,372	-
Norman Hung	1,098	23	2,196	-	23

## 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).

### 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, Dr. Yan-Kuin Su, and Hsiung-Ku Chen. 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, 2015, 2016 and 2017, we had 1,885, 2,125 and 2,190 employees, respectively. The following is a breakdown of our employees by function as of December 31, 2017:

Function	Number
Research and development <sup>(1)</sup>	1,363
Engineering and manufacturing <sup>(2)</sup>	372
Sales and marketing <sup>(3)</sup>	315
General and administrative	140
Total	2,190

Notes: (1) Includes semiconductor design engineers, application engineers, assembly and testing engineers and quality control engineers.

(2) Includes manufacturing personnel of Himax Taiwan and Himax Display, 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 2011 Plan was amended and restated by extending its duration for three (3) years to September 6, 2019, which was approved by our shareholders at the annual general meeting held on August 31, 2016. 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 “—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 10<sup>th</sup> 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 have not yet granted any stock options under the plan.

*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 5,522,279 RSUs to our employees on September 26, 2012. The vesting schedule for such RSU grants is as follows: 58.36% of the RSU grants vested immediately and was settled by cash in the amount of \$6.3 million on the grant date, with the remainder vesting equally on each of September 30, 2013, 2014 and 2015, which will be settled by our ordinary shares, subject to certain forfeiture events.

We made grants of 867,771 RSUs to our employees on September 26, 2013. The vesting schedule for such RSU grants is as follows: 88.90% of the RSU grants vested immediately and was settled by cash in the amount of \$7.8 million on the grant date, with the remainder vesting equally on each of September 30, 2014, 2015 and 2016, which will be settled by our ordinary shares, subject to certain forfeiture events.

We made grants of 1,219,791 RSUs to our employees on September 26, 2014. The vesting schedule for such RSU grants is as follows: 82.57% of the RSU grants vested immediately and was settled by cash in the amount of \$9.3 million on the grant date, with the remainder vesting equally on each of September 30, 2015, 2016 and 2017, which will be settled by our ordinary shares, subject to certain forfeiture events.

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.

*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, 2018, by each of our directors and executive officers.

Name	Number of Shares Owned	Percentage of Shares Owned	
Dr. Biing-Seng Wu	71,364,850	20.7	%
Jordan Wu	7,306,065	2.1	%
Dr. Yan-Kuin Su	-	-	
Yuan-Chuan Horng	916,104	0.3	%
Hsiung-Ku Chen	-	-	
Jackie Chang	23,234	-	
Norman Hung	528,930	0.2	%

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 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, 2018, 344,207,492 of our shares were outstanding. We believe that, of such shares, 216,129,688 shares in the form of ADSs were held by approximately 48,238 holders as of February 28, 2018.

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The following table sets forth information known to us with respect to the beneficial ownership of our shares as of February 28, 2018, 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	Percentage of Shares Beneficially Owned	
Dr. Biing-Seng Wu <sup>(1)</sup>	71,364,850	20.7	%
FMR LLC <sup>(2)</sup>	34,419,525	9.99	%
Whei-Lan Teng <sup>(3)</sup>	21,135,720	6.14	%
All directors and executive officers as a group <sup>(4)</sup>	80,139,183	23.3	%

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 Note:(1)Investment Co., Ltd., respectively, both of which are investment companies controlled by Dr. Biing-Seng Wu. Accordingly, Dr. Biing-Seng Wu may be deemed to beneficially own an aggregate of 71,364,850 ordinary shares, representing approximately 20.7% of the outstanding ordinary shares.

According to the Schedule 13G filed with the SEC on February 13, 2018, FMR LLC, together with its affiliates, (2) beneficially owned 34,419,525 of our shares, some or all of which may include shares represented by our ADS, as of December 31, 2017. We do not have further information with respect to any changes in FMR LLC's beneficial ownership of our shares subsequent to December 31, 2017.

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 (3)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 6.14% of the outstanding ordinary shares.

The percentage of shares beneficially owned by all directors and executive officers as a group decreased to 23.3% as of February 28, 2018 from 29.4% as of March 31, 2017. The decrease was from Jordan Wu's beneficial (4) ownership decreasing to 2.1% as of February 28, 2018 from 8.3% as of March 31, 2017, resulting from marriage dissolution between Jordan Wu and his wife on May 9, 2017.



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 2016 and 2017, we purchased raw materials and components from VST amounting to \$0.6 million and \$0.5 million, respectively. As of December 31, 2016 and 2017, the related payables resulting from the aforementioned transaction were \$0.6 million and nil, respectively. Additionally, as of December 31, 2016 and 2017, we made an interest free loan of \$7.2 million and \$2.8 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 2018. We may consider providing further future loans to VST.

##### ***Viewsil Microelectronics (Kunshan) Limited (Viewsil)***

Viewsil is an equity method investee of the Company. In 2017, 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, which was charged to research and development expense. As of December 31, 2017, the related payables have not yet been paid.

##### ***Emza Visual Sense Ltd. (Emza)***

Emza is an equity method investee of the Company. We made an interest free loan of \$0.5 million to Emza for short-term funding needs. The loan is repayable on demand and the Company expects it will be repaid in full during 2018. We may consider providing further future loans to Emza.

#### 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-1 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 22 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. 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 net income 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;

· dividends for preferred shares, if any; and

Furthermore, if Himax Taiwan does not generate any net income 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. The table below sets forth, for the periods indicated the high and low market prices and the average daily volume of trading activity on the NASDAQ Global Select Market for the shares represented by ADSs.

	High	Low	Average Daily Trading Volume (in thousands of ADSs)
2013	15.23	2.40	6,410.8
2014	16.15	5.70	5,923.9
2015	9.49	5.65	2,591.1
2016	12.00	5.85	3,210.1
First quarter	12.00	6.26	2,818.0
Second quarter	11.50	8.11	3,092.5
Third quarter	10.95	7.26	3,433.0
Fourth quarter	9.17	5.85	3,482.8
2017	13.95	4.88	5,285.1
First quarter	9.68	4.88	4,838.7
Second quarter	9.48	6.4	4,572.1
Third quarter	11.97	7.5	5,291.2
Fourth quarter	13.95	9	6,431.4
October	11.5	9	6,740.7
November	13.95	9.72	6,605.0
December	13.79	9.72	5,909.0
2018			
January	10.98	8.01	5,188.5
February	8.8799	7.4	4,094.1
March(through March 23)	8.43	6.61	3,686.1

## 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, 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 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 depositary’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, 2017.

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 with equal amounts of cash and time deposits pledged as collateral for the debt.

*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 2017, more than 99% of our sales and cost of revenues were denominated in U.S. dollars. However, in December 2017, approximately 65% of our operating expenses were denominated in NT dollars, with a small percentage denominated in Japanese Yen, Korean Won 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, 2017, 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 2017, we received payments of \$1.2 million netting of 30% withholding tax from the depositary relating to the ADR program, which was intended to cover certain of our expenses incurred in relation to the ADR program for the year, including:

· legal, audit and other fees incurred in connection with preparation of Form 20-F and annual reports and ongoing SEC compliance and listing requirements;

· director and officer insurance;

· stock exchange listing fees;

· non-deal roadshow expenses;

· costs incurred by financial printer and share certificate printer;

· postage for communications to ADR holders;

costs of retaining third-party public relations, investor relations and/or corporate communications advisory firms in the U.S.; and

- costs incurred in connection with participation in retail investor shows and capital markets days.

#### 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. and the contract is to last for 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 U.S. GAAP.

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 U.S. GAAP, 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, 2017 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, 2017.

**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 the internal control over financial reporting of Himax Technologies, Inc. and subsidiaries (the “Company”) as of December 31, 2017, 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, 2017, 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 balance sheets of the Company as of December 31, 2016 and 2017, the related consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the years in the three-year period ended December 31, 2017, and the related notes (collectively, the consolidated financial statements) and our report dated March 28, 2018 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 28, 2018

## Changes in Internal Control over Financial Reporting

In 2017, 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, Tree Valley Park  
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, 2016 and 2017.

Services	Year ended December 31,	
	2016	2017
Audit Fees <sup>(1)</sup>	\$ 775,000	\$ 839,000
All Other Fees <sup>(2)</sup>	149,000	32,000
Total	\$ 924,000	\$ 871,000

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 review of gap analysis of accounting policies and disclosures whether consistent with the requirements of IFRS, 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. As of March 31, 2016, we had repurchased a total of approximately \$13.4 million of our ADSs (approximately 9.5 million ADSs) under this program from the open market.

The following table sets forth information regarding transactions completed under the 2011 share buyback programs for each of the specified periods.

Period	(a) Total Number of ADSs Purchased	(b) Average Price Paid per ADS	(c) Total Number of ADSs Purchased as Part of Publicly Announced Plans or Programs	(d) Approximate Dollar Value of ADSs That May Yet Be Purchased Under the Plans or Programs
2011 Share Buyback Program:				
January 3, 2012 to January 31, 2012	2,451,652	\$ 1.31	6,218,862	\$ 17,185,592
February 1, 2012 to February 27, 2012	1,873,787	\$ 1.61	8,092,649	\$ 14,172,391
March 6, 2012 to March 30, 2012	186,345	\$ 1.75	8,278,994	\$ 13,847,214
April 3, 2012 to April 25, 2012	120,968	\$ 1.96	8,399,962	\$ 13,610,673
May 7, 2012 to May 31, 2012	83,839	\$ 1.99	8,483,801	\$ 13,444,651
June 1, 2012 to June 28, 2012	399,340	\$ 1.86	8,883,141	\$ 12,703,233
July 12, 2012 to July 31, 2012	169,188	\$ 1.55	9,052,329	\$ 12,442,204
August 1, 2012 to August 29, 2012	45,416	\$ 1.72	9,097,745	\$ 12,364,315
September 4, 2012 to September 26, 2012	48,276	\$ 1.92	9,146,021	\$ 12,272,014
October 1, 2012 to October 25, 2012	228,759	\$ 1.94	9,374,780	\$ 11,830,123
November 1, 2012 to November 13, 2012	113,876	\$ 1.94	9,488,656	\$ 11,609,979

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 Balance Sheets as of December 31, 2016 and 2017.
- (c) Consolidated Statements of Income for the years ended December 31, 2015, 2016 and 2017.
- (d) Consolidated Statements of Comprehensive Income for the years ended December 31, 2015, 2016 and 2017.
- (e) Consolidated Statements of Changes in Equity for the years ended December 31, 2015, 2016 and 2017.
- (f) Consolidated Statements of Cash Flows for the years ended December 31, 2015, 2016 and 2017.
- (g) Notes to the Consolidated Financial Statements.

ITEM 19. EXHIBITS

**Exhibit Number Description of Document**

<u>1.1</u>	<u>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.)</u>
<u>2.1</u>	<u>Registrant's Specimen American Depositary Receipt (included in Exhibit 2.3).</u>
<u>2.2</u>	<u>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.)</u>
<u>2.3</u>	<u>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.)</u>
<u>4.1</u>	<u>Himax Technologies, Inc. 2011 Long-Term Incentive Plan Amended and Restated as of August 31st day, 2016. (Incorporated herein by reference to Exhibit 99.4 to the Registrant's report of foreign private issuer on Form 6-k filed on July 12, 2016.)</u>
<u>4.2*</u>	<u>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.)</u>
<u>8.1</u>	<u>List of Subsidiaries.</u>
<u>12.1</u>	<u>Certification of Jordan Wu, President and Chief Executive Officer of Himax Technologies, Inc., pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
<u>12.2</u>	<u>Certification of Jackie Chang, Chief Financial Officer of Himax Technologies, Inc., pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
<u>13.1</u>	<u>Certification pursuant to 18 USC, Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>
<u>15.1</u>	<u>Consent of KPMG, Independent Registered Public Accounting Firm.</u>

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.

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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 28, 2018

HIMAX TECHNOLOGIES, INC.

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES**

**Consolidated Financial Statements**

**December 31, 2015, 2016 and 2017**

**(With Report of Independent Registered  
Public Accounting Firm Thereon)**

**F-1**

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 balance sheets of Himax Technologies, Inc. and subsidiaries (the “Company”) as of December 31, 2016 and 2017, the related consolidated statements of income, comprehensive income, changes in equity, and cash flows for each of the years in the three year period ended December 31, 2017, 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, 2016 and 2017, and the results of its operations and its cash flows for each of the years in the three year period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

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, 2017, 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 28, 2018 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.

We have served as the Company's auditor since 2001.

/s/ KPMG  
Hsinchu, Taiwan  
March 28, 2018

**F-2**

**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Consolidated Balance Sheets****December 31, 2016 and 2017****(in thousands of US dollars)**

	December 31,	
	2016	2017
Assets		
Current assets:		
Cash and cash equivalents	\$184,452	138,023
Investments in marketable securities available-for-sale	10,157	10,879
Accounts receivable, less allowance for doubtful accounts, sales returns and discounts of \$2,931 and \$1,203 at December 31, 2016 and 2017, respectively	190,998	187,571
Inventories	149,748	135,200
Deferred tax assets	5,065	-
Restricted cash, cash equivalents and marketable securities	138,200	147,000
Other receivable from related parties	7,150	3,250
Prepaid expenses and other current assets	17,195	39,495
Total current assets	702,965	661,418
Investment in non-marketable equity securities	12,242	3,122
Equity method investments	2,362	10,739
Property, plant and equipment, net	48,172	86,673
Deferred tax assets	1,050	7,688
Goodwill	28,138	28,138
Other intangible assets, net	3,170	2,179
Restricted marketable securities	124	470
Other assets	1,411	1,628
	96,669	140,637
Total assets	\$799,634	802,055

See accompanying notes to consolidated financial statements.

**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Consolidated Balance Sheets (Continued)****December 31, 2016 and 2017****(in thousands of US dollars, except share and per share data)**

	December 31,	
	2016	2017
Liabilities, Redeemable noncontrolling interest and Equity		
Current liabilities:		
Short-term debt	\$ 138,000	147,000
Accounts payable	142,269	139,933
Accounts payable to related party	576	-
Income taxes payable	14,155	6,798
Deferred tax liabilities	25	-
Other payable to related party	-	2,200
Other accrued expenses and other current liabilities	29,721	41,268
Total current liabilities	324,746	337,199
Income taxes payable	519	487
Accrued pension liabilities	1,064	1,152
Deferred tax liabilities	60	32
Other liabilities	1,438	4,616
Total liabilities	327,827	343,486
Redeemable noncontrolling interest	3,656	3,656
Equity		
Himax Technologies, Inc. stockholders' equity:		
Ordinary shares, US\$0.3 par value, 1,000,000,000 shares authorized; 356,699,482 shares issued; and 344,007,418 shares and 344,207,492 shares outstanding at December 31, 2016 and 2017, respectively	107,010	107,010
Additional paid-in capital	106,350	107,400
Treasury shares, at cost (12,692,064 shares and 12,491,990 shares at December 31, 2016 and 2017, respectively)	(9,020 )	(8,878 )
Accumulated other comprehensive loss	(2,467 )	(1,430 )
Unappropriated retained earnings	265,860	252,546
Total Himax Technologies, Inc. stockholders' equity	467,733	456,648
Noncontrolling interests	418	(1,735 )
Total equity	468,151	454,913
Commitments and contingencies		

Total liabilities, redeemable noncontrolling interest and equity	\$799,634	802,055
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See accompanying notes to consolidated financial statements.

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Consolidated Statements of Income****Years ended December 31, 2015, 2016 and 2017****(in thousands of US dollars, except per share data)**

	Year Ended December 31,		
	2015	2016	2017
Revenues	\$691,789	802,917	685,167
Costs and expenses:			
Cost of revenues	528,651	608,605	518,142
Research and development	94,422	95,820	117,757
General and administrative	18,470	20,119	20,614
Bad debt expense	310	620	155
Sales and marketing	19,264	18,518	20,349
Total costs and expenses	661,117	743,682	677,017
Operating income	30,672	59,235	8,150
Non operating income (loss):			
Interest income	710	1,221	2,225
Dividend income	-	700	-
Gains on sale of securities, net	1,993	10	23,226
Equity in losses of equity method investees	(77 )	(1,277 )	(1,200 )
Foreign currency exchange gains (losses), net	(43 )	167	(1,517 )
Interest expense	(514 )	(633 )	(565 )
Other income (loss), net	126	(5 )	19
	2,195	183	22,188
Earnings before income taxes	32,867	59,418	30,338
Income tax expense	11,405	10,671	4,520
Net income	21,462	48,747	25,818
Net loss attributable to noncontrolling interests	3,733	2,165	2,149
Net income attributable to Himax Technologies, Inc. stockholders	\$25,195	50,912	27,967
Basic earnings per ordinary share attributable to Himax Technologies, Inc. stockholders	\$0.07	0.15	0.08
	\$0.07	0.15	0.08

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Diluted earnings per ordinary share attributable to Himax Technologies, Inc.  
stockholders

Basic earnings per ADS attributable to Himax Technologies, Inc. stockholders	\$0.15	0.30	0.16
Diluted earnings per ADS attributable to Himax Technologies, Inc. stockholders	\$0.15	0.30	0.16

See accompanying notes to consolidated financial statements.

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Consolidated Statements of Comprehensive Income****Years ended December 31, 2015, 2016 and 2017****(in thousands of US dollars)**

	Year Ended December 31,		
	2015	2016	2017
Net income	\$ 21,462	48,747	25,818
Other comprehensive income (loss):			
Unrealized gains (losses) on securities, not subject to income tax:	(294 )	(71 )	322
Unrealized holding gains (losses) on available-for-sale marketable securities arising during the period	(71 )	(61)	510
Reclassification adjustment for realized gains included in net income	(223)	(10)	(188)
Foreign currency translation adjustments, net of income tax of nil	(573 )	(479 )	862
Net unrecognized actuarial gain (loss), net of income tax of \$(168), \$6 and \$(25) in 2015, 2016 and 2017, respectively	(778 )	1	(150 )
Comprehensive income	19,817	48,198	26,852
Comprehensive loss attributable to noncontrolling interests	3,815	2,126	2,152
Comprehensive income attributable to Himax Technologies, Inc. stockholders	\$ 23,632	50,324	29,004

See accompanying notes to consolidated financial statements.

**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Consolidated Statements of Changes in Equity****Years ended December 31, 2015, 2016 and 2017****(in thousands of US dollars and shares, except per share data)**

	Ordinary shares		Additional paid-in	Treasury shares		Accumulated other comprehensive income (loss)	Unappropriated retained earnings	Total Himax Technologies Inc. stockholders' equity	Noncontrolling interests	Total Equity
	Shares	Amount	<u>capital</u>	Shares	Amount					
Balance at January 1, 2015	356,700	\$ 107,010	107,808	(14,275)	(10,144)	(316 )	268,266	472,624	(4,327)	468,297
Restricted stock vested	-	-	(987 )	1,390	987	-	-	-	-	-
Share-based compensation expenses	-	-	1,804	-	-	-	-	1,804	14	1,818
Excess tax benefits from restricted stock vested	-	-	771	-	-	-	-	771	-	771
New shares issued by subsidiary	-	-	(3,782 )	-	-	-	(3,993 )	(7,775 )	9,241	1,466
Sale (purchase) of subsidiary shares to (from) noncontrolling interests	-	-	(275 )	-	-	-	(729 )	(1,004 )	523	(481 )
Acquisition of Liqxtal Technology Inc.	-	-	-	-	-	-	-	-	1,001	1,001
Adjustment arising from	-	-	16	-	-	-	-	16	-	16

changes in percentage of ownership in equity method investees											
Declaration of cash dividends, \$0.15 per share	-	-	-	-	-	-	(51,364 )	(51,364 )	-	(51,364 )	
Comprehensive Income:											
Net income	-	-	-	-	-	-	25,195	25,195	(3,733)	21,462	
(loss)											
Other											
comprehensive	-	-	-	-	-	(1,563)	-	(1,563 )	(82 )	(1,645 )	
loss											
Balance at											
December 31, 2015	356,700	\$107,010	105,355	(12,885)	(9,157 )	(1,879)	237,375	438,704	2,637	441,341	

See accompanying notes to consolidated financial statements.

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Consolidated Statements of Changes in Equity (Continued)****Years ended December 31, 2015, 2016 and 2017****(in thousands of US dollars and shares, except per share data)**

	Ordinary shares		Additional paid-in	Treasury shares		Accumulated other comprehensive income (loss)	Unappropriated retained earnings	Total Himax Technologies Inc. stockholders' equity	Noncontrolling interests	Total Equity
	Shares	Amount	capital	Shares	Amount					
Restricted stock vested	-	-	(137 )	192	137	-	-	-	-	-
Share-based compensation expenses	-	-	1,132	-	-	-	-	1,132	54	1,186
Adjustment from previously unrecognized excess tax benefits	-	-	-	-	-	-	141	141	-	141
Sale (purchase) of subsidiary shares to (from) noncontrolling interests	-	-	-	-	-	-	(220 )	(220 )	(147 )	(367 )
Declaration of cash dividends, \$0.065 per share	-	-	-	-	-	-	(22,348 )	(22,348 )	-	(22,348 )
Comprehensive Income:										
Net income	-	-	-	-	-	-	50,912	50,912	(2,165)	48,747
(loss)	-	-	-	-	-	(588 )	-	(588 )	39	(549 )

Other  
comprehensive  
income (loss)

Balance at

December 31, 2016	356,700	\$107,010	106,350	(12,693)	(9,020)	(2,467)	265,860	467,733	418	468,151
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See accompanying notes to consolidated financial statements.

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Consolidated Statements of Changes in Equity (Continued)****Years ended December 31, 2015, 2016 and 2017****(in thousands of US dollars and shares, except per share data)**

	Ordinary shares		Additional paid-in	Treasury shares		Accumulated other comprehensive income (loss)	Unappropriated retained earnings	Total Himax Technologies Inc. stockholders' equity	Noncontrolling interests	Total Equity
	Shares	Amount	capital	Shares	Amount					
Restricted stock vested	-	-	(142 )	201	142	-	-	-	-	-
Share-based compensation expenses	-	-	1,041	-	-	-	-	1,041	57	1,098
New shares issued by subsidiary	-	-	130	-	-	-	-	130	(25 )	105
Sale (purchase) of subsidiary shares to (from) noncontrolling interests	-	-	(5 )	-	-	-	-	(5 )	(33 )	(38 )
Dilution gain of equity method investment	-	-	26	-	-	-	-	26	-	26
Declaration of cash dividends, \$0.12 per share	-	-	-	-	-	-	(41,281 )	(41,281 )	-	(41,281 )
Comprehensive Income:										
Net income (loss)	-	-	-	-	-	-	27,967	27,967	(2,149)	25,818
Other comprehensive	-	-	-	-	-	1,037	-	1,037	(3 )	1,034

income (loss)

Balance at

December 31,	356,700	\$ 107,010	107,400	(12,492)	(8,878)	(1,430)	252,546	456,648	(1,735)	454,913
2017										

See accompanying notes to consolidated financial statements.

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## HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

## Consolidated Statements of Cash Flows

**Years ended December 31, 2015, 2016 and 2017**  
**(in thousands of US dollars)**

	Year Ended December 31,		
	2015	2016	2017
Cash flows from operating activities:			
Net income	\$21,462	48,747	25,818
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	14,164	13,756	16,680
Bad debt expense	310	620	155
Share-based compensation expenses	1,818	1,186	1,098
Loss (gain) on disposals of property and equipment	(2 )	26	(26 )
Gain on disposals of equity method investment	(88 )	-	-
Gain on disposals of investment in non-marketable equity securities, net	(1,682 )	-	(23,038)
Gain on disposals of marketable securities, net	(223 )	(10 )	(188 )
Equity in losses of equity method investees	77	1,277	1,200
Deferred tax expense (benefit)	4,148	(1,978 )	(1,601 )
Inventories write downs	9,785	23,342	12,298
Changes in:			
Accounts receivable	41,656	(14,602)	(1,998 )
Inventories	(15,054)	(1,716 )	2,250
Prepaid expenses and other current assets	2,067	(647 )	862
Accounts payable	(54,905)	17,846	(2,336 )
Accounts payable to related party	-	576	(576 )
Income taxes payable	(6,475 )	1,389	(7,390 )
Other payable to related party	-	-	2,200
Other accrued expenses and other current liabilities	5,987	(5,164 )	4,678
Other liabilities	(516 )	24	(693 )
Net cash provided by operating activities	22,529	84,672	29,393
Cash flows from investing activities:			
Purchases of property, plant and equipment	(9,982 )	(7,902 )	(39,818)
Proceeds from disposals of property and equipment	8	9	115
Purchases of available-for-sale marketable securities	(63,051)	(30,248)	(47,095)
Proceeds from disposals of available-for-sale marketable securities	46,720	38,532	47,119
Purchases of investment in non-marketable equity securities	-	(1,600 )	-
Proceeds from disposals of investment in non-marketable equity securities	1,682	-	10,000
Proceeds from capital reduction of investment	-	568	132



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Purchase of equity method investment	(3,708 )	(37 )	(9,175 )
Proceeds from disposals of equity method investment	179	-	-
Proceeds from (repayments of) refundable deposits, net	(304 )	461	(120 )
Releases (pledges) of restricted marketable securities	(227 )	240	(146 )
Cash paid for loan made to related parties	-	(7,150 )	(3,250 )
Cash received from loan made to related party	-	-	7,150
Cash received from the acquisition of Liqxtal, net of cash paid of \$1,780	341	-	-
Net cash used in investing activities	(28,342)	(7,127 )	(35,088)

See accompanying notes to consolidated financial statements.

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Consolidated Statements of Cash Flows (Continued)****Years ended December 31, 2015, 2016 and 2017****(in thousands of US dollars)**

	Year Ended December 31,		
	2015	2016	2017
Cash flows from financing activities:			
Payments of cash dividends	\$(51,364 )	(22,348 )	(41,281 )
Excess tax benefits from share-based compensation	771	-	-
Proceeds from disposals of subsidiary shares to noncontrolling interests by Himax Imaging, Inc.	22	9	4
Purchases of subsidiary shares from noncontrolling interests	(503 )	(376 )	(42 )
Releases (pledges) of restricted cash, cash equivalents and marketable securities (for borrowing of short-term debt)	(50,000 )	42,000	(9,000 )
Proceeds from issuances of new shares by subsidiaries	1,466	-	105
Proceeds from short-term debt	412,303	230,000	151,161
Repayments of short-term debt	(362,303)	(272,000)	(142,161)
Net cash used in financing activities	(49,608 )	(22,715 )	(41,214 )
Effect of foreign currency exchange rate changes on cash and cash equivalents	(216 )	(207 )	480
Net increase (decrease) in cash and cash equivalents	(55,637 )	54,623	(46,429 )
Cash and cash equivalents at beginning of year	185,466	129,829	184,452
Cash and cash equivalents at end of year	\$ 129,829	184,452	138,023
Supplemental disclosures of cash flow information:			
Cash paid during the year for:			
Interest	\$516	637	565
Income taxes	\$ 12,505	11,534	14,683
Supplemental disclosures of investing activities affecting both cash and non-cash items:			
Purchase of property, plant and equipment	\$(10,567 )	(6,570 )	(54,215 )
Increase (decrease) in payable for purchases of equipment and asset retirement obligations	585	(1,332 )	14,397
Cash paid	<b>\$(9,982 )</b>	(7,902 )	(39,818 )
Proceeds from disposal of investment in non-marketable equity securities	\$ 1,682	-	32,000
Increase in other current assets for disposal of investment in non-marketable equity securities	-	-	(22,000 )
Cash received	<b>\$ 1,682</b>	-	10,000

See accompanying notes to consolidated financial statements.

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements****December 31, 2015, 2016 and 2017****Note 1. Background, Principal Activities and Basis of Presentation****Background**

Himax Technologies, Inc. is a holding company located in the Cayman Islands. Following is general information about Himax Technologies, Inc.'s subsidiaries:

Subsidiary	Main activities	Jurisdiction of Incorporation	Percentage of Ownership December 31,	
			2016	2017
Himax Technologies Limited	IC design and sales	ROC	100.00 %	100.00 %
Himax Technologies Korea Ltd.	IC design and sales	South Korea	100.00 %	100.00 %
Himax Technologies Japan Ltd.	Sales	Japan	100.00 %	100.00 %
Himax Semiconductor, Inc.	IC design and sales	ROC	100.00 %	100.00 %
Himax Semiconductor (Hong Kong) Limited	Investments	Hong Kong	100.00 %	100.00 %
Himax Technologies (Samoa), Inc.	Investments	Samoa	100.00 %	100.00 %
Himax Technologies (Suzhou), Co., Ltd.	Sales and technical support	PRC	100.00 %	100.00 %
Himax Technologies (Shenzhen), Co., Ltd.	Sales and technical support	PRC	100.00 %	100.00 %
Himax Display, Inc.	LCOS and MEMS design, manufacturing and sales	ROC	82.55 %	82.72 %
Integrated Microdisplays Limited	LCOS design	Hong Kong	82.55 %	82.72 %
Himax Display (USA) Inc.	LCOS and MEMS design, sales and technical support	Delaware, USA	82.55 %	82.72 %
Himax Analogic, Inc.	IC design and sales	ROC	98.62 %	98.62 %
Himax Imaging, Inc.	Investments	Cayman Islands	100.00 %	100.00 %

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

Subsidiary	Main activities	Jurisdiction of Incorporation	Percentage of Ownership December 31,	
			2016	2017
Himax Imaging, Ltd.	IC design and sales	ROC	93.84 %	93.72 %
Himax Imaging Corp.	IC design	California, USA	93.84 %	93.72 %
Himax Media Solutions, Inc.	TFT-LCD television, monitor chipset operations, ASIC service and IP licensing	ROC	99.21 %	99.22 %
Harvest Investment Limited	Investments	ROC	100.00 %	100.00 %
Liqxtal Technology Inc.	LC Lens design and sales	ROC	64.00 %	64.00 %
Himax IGI Precision Ltd. (*)	3D micro and nano structure mastering and prototype replication	Delaware, USA	-	100.00 %

(\*) Himax IGI Precision Ltd. was newly incorporated on December 14, 2017, which is wholly owned by Himax Technologies Limited and injected capital in February 2018.

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.

**Principal Activities**

Himax Technologies, Inc. and subsidiaries (collectively, 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, 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, scaler products for monitors and projectors, tailor-made video processing IC solutions, silicon IPs and LCOS micro-displays for augmented reality (AR) devices and head-up displays (HUD) for automotive. The Company also offers digital camera solutions, including CMOS image sensors and Wafer Level Optics (WLO) for AR devices, 3D sensing and machine vision, which are used in a wide variety of applications such as mobile phone, tablet, laptop, TV, PC camera, automobile, security, medical devices and Internet of Things.

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## **HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES**

### **Notes to Consolidated Financial Statements (Continued)**

**December 31, 2015, 2016 and 2017**

#### **Basis of Presentation**

The accompanying consolidated financial statements of the Company have been prepared in conformity with U.S. generally accepted accounting principles ("US GAAP").

#### **Note 2. Summary of Significant Accounting Policies**

##### **(a) Principles 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) Use of Estimates**

The preparation of consolidated financial statements in conformity with US GAAP requires management to make estimates and assumptions relating to the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates. Significant items subject to such estimates and assumptions include the useful lives of property, plant and equipment and intangible assets; the recoverability of deferred tax assets, property, plant and equipment and inventory; indefinite reinvestment of subsidiaries' earnings; potential impairment of intangible assets, goodwill and other contingencies. Management bases its estimates on historical experience and also on assumptions that it believes are reasonable. Management assesses these estimates on a regular basis; however, actual results could differ materially from those estimates.



(c) Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with an original maturity of three months or less at the time of purchase to be cash equivalents. As of December 31, 2016 and 2017, the Company had \$13,055 thousand and \$22,559 thousand of cash equivalents, respectively, in Chinese Renminbi and US dollar denominated time deposits with original maturities of less than three months. As of December 31, 2016 and 2017, cash and time deposits in the amount of \$138,000 thousand and \$147,000 thousand, respectively, had been pledged as collateral for short term debts which would be released within one year and are therefore excluded from cash and cash equivalents for purposes of the consolidated statements of cash flows.

(d) Investment Securities

Investment securities as of December 31, 2016 and 2017 consist of investments in marketable securities and investments in non-marketable equity securities. All of the Company's investments in marketable securities are classified as available-for-sale securities and are reported at fair value.

## **HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES**

### **Notes to Consolidated Financial Statements (Continued)**

#### **December 31, 2015, 2016 and 2017**

Available-for-sale securities, which mature or are expected to be sold in one year, are classified as current assets. Unrealized holding gains and losses, net of related taxes on available for sale securities are excluded from earnings and reported as a separate component of equity in accumulated other comprehensive income (loss) until realized. Realized gains and losses from the sale of available for sale securities are determined on a specific identification basis.

The cost of the securities sold is computed based on the moving average cost of each security held at the time of sale.

As of December 31, 2016 and 2017, the Company had \$324 thousand and \$470 thousand, respectively, of restricted marketable securities in NT dollar denominated time deposits with original maturities of more than three months, which had been pledged as collateral for customs duties and guarantees for government grants.

Investments in non-marketable equity securities in which the Company does not have the ability to exercise significant influence over the operating and financial policies of the investee are stated at cost. Dividends, if any, are recognized into earnings when received.

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.

A decline in value of a security below cost that is deemed to be other than temporary will result in an impairment to reduce the carrying amount to fair value. To determine whether any impairment is other-than-temporary, management

considers all available information relevant to the collectability of the security, including past events, current conditions, and reasonable and supportable forecasts, when developing estimates of cash flows to be collected. Evidence considered in this assessment includes the reasons for the impairment, the severity and duration of the impairment, changes in value subsequent to year-end, forecasted performance of the investee, and the general market condition in the geographic area or industry the investee operates in.

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## HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

### Notes to Consolidated Financial Statements (Continued)

#### December 31, 2015, 2016 and 2017

##### (e) Allowance for Doubtful Accounts

An allowance for doubtful accounts is provided based on a review of collectability of accounts receivable on a monthly basis. In establishing an appropriate allowance for doubtful accounts, management considers the historical collection experience, current receivable aging and the current trend in the credit quality of the Company's customers. Management reviews its allowance for doubtful accounts quarterly. Account balance is charged off against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote.

##### (f) 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. The Company also writes down excess and obsolete inventories to their estimated market value based upon estimations about future demand and market conditions. If actual market conditions are less favorable than those projected by management, additional future inventory write-down may be required that could adversely affect the Company's operating results. Once written down, inventories are carried at this lower amount until sold or scrapped. If actual market conditions are more favorable, the Company may have higher operating income when such products are sold. Sales to date of such products have not had a significant impact on the Company's operating income.

##### (g) Property, Plant and Equipment

Property, plant and equipment consists primarily of land purchased as the construction site of the Company's headquarters, building and machinery and equipment used in the design and development of products, and is stated at cost. 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 6 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. Software is amortized on a straight line basis over the estimated useful lives ranging from 2 to 10 years.

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.

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## **HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES**

### **Notes to Consolidated Financial Statements (Continued)**

#### **December 31, 2015, 2016 and 2017**

##### **(h) Goodwill**

Goodwill is an asset representing the future economic benefits arising from other assets acquired in the business combination of the Company's acquisition of Himax Semiconductor, Inc. (formerly Wisepal Technologies, Inc.) in 2007 and Himax Display (USA) Inc. (formerly Spatial Photonics, Inc.) in 2012, that are not individually identified and separately recognized. Goodwill is reviewed for impairment at least annually. The Company tests goodwill for impairment on the end day of October each fiscal year. Goodwill is also tested for impairment between annual tests if an event occurs or circumstances change that would more likely than not reduce the fair value of the reporting unit below its carrying amount.

Management may perform a qualitative assessment to determine whether it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount prior to performing the two-step goodwill impairment test. If this is the case, the two-step goodwill impairment test is required. If it is more-likely-than-not that the fair value of a reporting unit is greater than its carrying amount, the two-step goodwill impairment test is not required.

Alternatively, management may bypass this qualitative assessment for some or all of its reporting units and perform step 1 of the two-step goodwill impairment test. Under the first step, the fair value of the reporting unit is compared with its carrying value (including goodwill). If the fair value of the reporting unit is less than its carrying value, an indication of goodwill impairment exists for the reporting unit and the Company must perform step two of the impairment test (measurement). Under step two, an impairment loss is recognized for any excess of the carrying amount of the reporting unit's goodwill over the implied fair value of that goodwill. The implied fair value of goodwill is determined by allocating the fair value of the reporting unit in a manner similar to a purchase price allocation. The residual fair value after this allocation is the implied fair value of the reporting unit goodwill. If the fair value of the reporting unit exceeds its carrying value, step two does not need to be performed.

Impairment testing for goodwill is done at a reporting unit level. A reporting unit is an operating segment or one level below an operating segment (also known as a component). A component of an operating segment is a reporting unit if the component constitutes a business for which discrete financial information is available, and segment management

regularly reviews the operating results of that component.

As further described in Note 2(s) below, the Company determined that the Company has two operating segments, which are also reportable segments. The Company has determined that three of the components in Segment Driver IC are economically similar and are aggregately deemed as a single reporting unit. As a result, the Company has four reporting units which are Driver IC, WLO, CMOS image sensors, and Others.

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## **HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES**

### **Notes to Consolidated Financial Statements (Continued)**

#### **December 31, 2015, 2016 and 2017**

Management assigned the Company's assets and liabilities to each reporting unit based on either specific identification or by using judgment for the remaining assets and liabilities that are not specific to a reporting unit. Goodwill from acquisition of Himax Semiconductor, Inc. has been assigned to Driver IC reporting unit and goodwill from acquisition of Himax Display (USA) Inc. has been assigned to WLO reporting unit because those reporting units are expected to benefit from the synergies of the business combinations.

Management qualitatively assessed whether it is more likely than not that the respective fair values of these reporting units are less than their carrying amounts, including goodwill. Based on that assessment, management determined that this condition, for these reporting units, does not exist. As such, performing the first step of the two-step test impairment test for these reporting units was unnecessary.

As of December 31, 2016 and 2017, goodwill in Segment Driver IC and Segment Non-driver products was \$26,846 thousand and \$1,292 thousand, respectively.

#### **(i) Other Intangible Assets**

Acquired intangible assets include patents and developed technology acquired in a business combination at December 31, 2016 and 2017. These intangible assets are amortized on a straight-line basis over the following estimated useful lives: patents 15 years and technology 7 years.

#### **(j) Impairment of Long-Lived Assets**

The Company's long-lived assets, which consist of property, plant and equipment and intangible assets subject to amortization, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is assessed by a comparison



of the carrying amount of an asset to its estimated undiscounted future cash flows expected to be generated. If the carrying amount of an asset exceeds such estimated cash flows, an impairment charge is recognized for the amount by which the carrying amount of the asset exceeds its estimated fair value. Management generally determines fair value based on the estimated discounted future cash flows expected to be generated by the asset.

(k) Revenue Recognition

The Company recognizes revenue from product sales when persuasive evidence of an arrangement exists, the product has been delivered, the price is fixed and determinable and collection is reasonably assured. The Company uses a binding purchase order as evidence of an arrangement. Management considers delivery to occur upon shipment provided title and risk of loss has passed to the customer based on the shipping terms, which is generally when the product is shipped to the customer from the Company's facilities or the outsourced assembly and testing house. In some cases, title and risk of loss does not pass to the customer when the product is received by them. In these cases, the Company recognizes revenue at the time when title and risk of loss is transferred, assuming all other revenue recognition criteria have been satisfied. These cases include several inventory locations where the Company manages inventories for its customers, some of which inventories are at customer facilities. In such cases, revenue is not recognized when products are received at these locations; rather, revenue is recognized when customers take the inventories from the location for their use.

## **HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES**

### **Notes to Consolidated Financial Statements (Continued)**

#### **December 31, 2015, 2016 and 2017**

The Company records a reduction to revenue and accounts receivable by establishing a sales discount and return allowance for estimated sales discounts and product returns at the time revenue is recognized based primarily on historical discount and return rates. However, if sales discount and product returns for a particular fiscal period exceed historical rates, management may determine that additional sales discount and return allowances are required to properly reflect the Company's estimated remaining exposure for sales discounts and product returns.

Sales taxes collected from customers and remitted to governmental authorities are accounted for on a net basis and therefore are excluded from revenues in the consolidated statements of income.

#### **(l) Product Warranty**

Under the Company's standard terms and conditions of sale, products sold are subject to a limited product quality warranty. The Company may receive warranty claims outside the scope of the standard terms and conditions. The Company provides for the estimated cost of product warranties at the time revenue is recognized based primarily on historical experience and any specifically identified quality issues.

#### **(m) Research and Development and Advertising Costs**

The Company's research and development and advertising expenditures are charged to expense as incurred. Advertising expenses for the years ended December 31, 2015, 2016 and 2017, were \$7 thousand, \$16 thousand and \$20 thousand, respectively.

The Company recognizes government grants to fund research and development expenditures as a reduction of research and development expense in the consolidated statements of income based on the percentage of actual qualifying expenditures incurred to date to the most recent estimate of total expenditures for which they are intended

to be compensated.

(n)Employee Retirement Plan

The Company has established an employee noncontributory defined benefit retirement plan (the “Defined Benefit Plan”) covering full-time employees in the ROC which were hired by the Company before July 1, 2005.

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## **HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES**

### **Notes to Consolidated Financial Statements (Continued)**

#### **December 31, 2015, 2016 and 2017**

The Company records annual amounts relating to its pension and postretirement plans based on calculations that incorporate various actuarial and other assumptions including discount rates, mortality, assumed rates of return, compensation increases, and turnover rates. Management reviews its assumptions on an annual basis and makes modifications to the assumptions based on current rates when it is appropriate to do so. The effect of modifications to those assumptions is recorded in accumulated other comprehensive income and amortized to net periodic cost over future periods using the corridor method. Management believes that the assumptions utilized in recording its obligations under its plans are reasonable based on its experience and market conditions.

The Company has adopted a defined contribution plan covering full-time employees in the ROC (the “Defined Contribution Plan”) beginning July 1, 2005 pursuant to ROC Labor Pension Act. Pension cost for a period is determined based on the contribution called for in that period. Substantially all participants in the Defined Benefit Plan have been provided the option of continuing to participate in the Defined Benefit Plan, or to participate in the Defined Contribution Plan on a prospective basis from July 1, 2005. Accumulated benefits attributed to participants that elect to change plans are not impacted by their election.

#### **(o) Income Taxes**

Income taxes are accounted for under the asset and liability method. 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. A valuation allowance is recorded to reduce deferred tax assets to the amount more likely than not to be realized.

The Company recognizes the effect of income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is greater than 50 percent likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment

occurs. The Company records interest and penalties related to unrecognized tax benefits as income tax expense in the consolidated statement of income.

(p) Foreign Currency Translation and Foreign Currency Transactions

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

**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017****(q) Earnings Per Ordinary Share**

Basic earnings per ordinary share is computed using the 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) granted to employees.

Basic and diluted earnings per ordinary share have been calculated as follows:

	Year Ended December 31,		
	2015	2016	2017
Net income attributable to Himax Technologies, Inc. stockholders (in thousands)	\$25,195	50,912	27,967
Denominator for basic earnings per ordinary share:			
Weighted average number of ordinary shares outstanding (in thousands)	343,570	344,655	344,849
Basic earnings per ordinary share attributable to Himax Technologies, Inc. stockholders	\$0.07	0.15	0.08

Contingently issuable ordinary shares underlying the unvested RSUs granted to employees are included in the calculation of diluted earnings per ordinary share based on treasury stock method.

	Year Ended December 31,		
	2015	2016	2017
Net income attributable to Himax Technologies, Inc. stockholders (in thousands)	\$25,195	50,912	27,967
Denominator for diluted earnings per ordinary share:			
Weighted average number of ordinary shares outstanding (in thousands)	343,570	344,655	344,849

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Unvested RSUs (in thousands)	562	69	54
	344,132	344,724	344,903
Diluted earnings per ordinary share attributable to Himax Technologies, Inc. stockholders	\$0.07	0.15	0.08

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## **HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES**

### **Notes to Consolidated Financial Statements (Continued)**

#### **December 31, 2015, 2016 and 2017**

##### **(r) Share-Based Compensation**

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 over the service period. 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.

##### **(s) Segment Reporting**

The Company uses the management approach in determining reportable operating segments. The management approach considers the internal organization and reporting used by the Company's chief operating decision maker for making operating decisions, allocating resources and assessing performance as the source for determining the Company's reportable segments.

The Company's chief operating decision maker ("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.

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, interest income and expense, foreign currency exchange gains and losses, equity in the earnings (losses) of affiliates, gains and losses on valuations of financial instruments and sales of investment securities, and other income and expenses.



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 income as part of consolidated net income and the accumulated amount of noncontrolling interests as part of equity in the consolidated balance sheets. 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.

The effects of changes in the Company's ownership interests in its subsidiaries on Himax Technologies, Inc. equity are set forth as follows:

**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

	Year Ended December 31, 2015      2016      2017 (in thousands)		
Net income attributable to Himax Technologies, Inc. stockholders	\$25,195	50,912	27,967
Transfers (to) from the noncontrolling interests:			
Increase in Himax Technologies, Inc.'s paid-in capital for sale of shares of subsidiaries	32	9	5
Decrease in Himax Technologies, Inc.'s paid-in capital and retained earnings for purchase of shares of subsidiaries	(1,036 )	(229 )	(10 )
Change from net income attributable to Himax Technologies, Inc. stockholders and transfers from noncontrolling interests	\$24,191	50,692	27,962

**(u) Fair Value Measurements**

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair values of cash, cash equivalents, accounts receivable, restricted cash and cash equivalents, short-term debt, accounts payable and accrued liabilities approximate their carrying values due to their relatively short maturities. Marketable securities consisting of time deposits with original maturities more than three months are determined using the discounted present value of expected cash flows. The fair value of equity method investments and cost method investments have not been estimated as there are no identified events or changes in circumstances that may have significant adverse effects on the carrying value of these investments, and it is not practicable to estimate their fair values.

A fair value hierarchy exists that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to measurements involving significant unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are as follows:

(i)

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date.

(ii) Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.

(iii) Level 3 inputs are unobservable inputs for the asset or liability.

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## HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

### Notes to Consolidated Financial Statements (Continued)

#### December 31, 2015, 2016 and 2017

The level in the fair value hierarchy within which a fair measurement in its entirety falls is based on the lowest level input that is significant to the fair value measurement in its entirety.

#### (v) Recently Adopted Accounting Standard Update

In November 2015, the FASB issued ASU 2015-17, *Balance Sheet Classification of Deferred Taxes*, which requires all deferred tax assets and liabilities, and related valuation allowances, to be classified as noncurrent on the Company's consolidated balance sheets. ASU 2015-17 is effective for the Company for annual periods in fiscal years beginning after December 15, 2016, and requires either prospective or retrospective adoption. The Company adopted ASU 2015-17 on January 1, 2017 on a prospective basis, as reflected in the consolidated financial statements.

#### (w) Recently Issued Accounting Standard Update

In May 2014, the FASB issued ASU 2014-09, "Revenue from Contracts with Customers" (Topic 606) regarding the accounting for and disclosures of revenue recognition, with an effective date for annual and interim periods beginning after December 15, 2016. This update provides a single comprehensive model for accounting for revenue from contracts with customers. The model requires that revenue recognized reflect the actual consideration to which the entity expects to be entitled in exchange for the goods or services defined in the contract, including in situations with multiple performance obligations. In July 2015, the FASB issued ASU 2015-14, "Revenue from Contracts with Customers: Deferral of the Effective Date" which deferred the effective date, of the previously issued revenue recognition guidance, by one year. The guidance, as amended, will be effective for annual and interim periods beginning after December 15, 2017. The guidance permits companies to either apply the requirements retrospectively to all prior periods presented, or apply the requirements in the year of adoption, through cumulative adjustment. The Company has determined that the adoption of Topic 606 would not have a material impact on its consolidated financial statements.

In January 2016, the FASB issued ASU 2016-01 on classifying and measuring financial instruments, which requires that (i) all equity investments, other than equity method investments, in unconsolidated entities generally be measured at fair value through earnings and (ii) when the fair value option has been elected for financial liabilities, changes in fair value due to instrument-specific credit risk be recognized separately in other comprehensive income. Additionally, it changes the disclosure requirements for financial instruments. The new guidance is effective for the Company for annual periods in fiscal years beginning after December 15, 2017. Early adoption is permitted for certain provisions. The guidance requires the Company to apply prospectively in the year of adoption. The Company has determined that the adoption of ASU 2016-01 would not have a material impact on its consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02 related to leases that outlines a comprehensive lease accounting model and supersedes the current lease guidance. ASU 2016-02 requires lessees to recognize lease liabilities and corresponding right-of-use assets for all leases with lease terms of greater than 12 months. It also changes the definition of a lease and expands the disclosure requirements of lease arrangements. ASU 2016-02 must be adopted using the modified retrospective approach. The guidance, as amended, will be effective for annual and interim periods beginning after December 15, 2018. As of December 31, 2017, the Company is in the process of assessing the potential effects that adoption would have on its consolidated financial statements.

## HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

### Notes to Consolidated Financial Statements (Continued)

#### December 31, 2015, 2016 and 2017

##### (x) Financial Reporting after 2017

The Company has decided to report its financial statements using International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (“IASB”) after December 31, 2017 and to discontinue the use of U.S. GAAP financial reporting. Upon adoption of IFRS in 2018, the Company will also report comparative financial statements prepared in accordance with IFRS as of and for the year ended December 31, 2017, including applicable transition disclosures. The Company does not expect the transition from U.S. GAAP to IFRS to have any significant impact on the consolidated financial statements. In reaching this conclusion, the Company also considered in its assessment the expected impact on future periods of recently issued IFRS accounting standards with mandatory future adoption dates.

IFRS 15 Revenue from Contracts with Customers establishes a comprehensive framework for determining whether, how much and when revenue is recognized, and is effective for annual reporting periods beginning on or after January 1, 2018. IFRS 15 has the similar nature with Topic 606. The Company will adopt IFRS 15 from January 1, 2018 under the Cumulative effect method, and has determined the adoption of IFRS 15 will not have a significant impact on its consolidated financial statements.

IFRS 9 Financial Instruments includes guidance on the classification and measurement of financial instruments, including a new expected credit loss model for calculating impairment on financial assets, and the new general hedge accounting requirements. It also carries forward the guidance on recognition and derecognition of financial instruments from IAS 39, and is effective for annual reporting periods beginning on or after January 1, 2018. IFRS 9 has the similar nature with ASU 2016-01. As of December 31, 2017, the Company had \$10,879 thousand reported as investment in marketable securities available-for-sale, that will be reclassified to financial assets at amortized cost and financial assets at Fair Value Through Profit or Loss (FVTPL) at amounts of \$10,358 thousand and \$521 thousand, respectively, on January 1, 2018 in accordance with IFRS 9.

IFRS 16 Leases establishes a single, on balance-sheet lease accounting model for lessees, and is effective for annual reporting periods beginning on or after January 1, 2019. IFRS 16 has the similar nature with ASU 2016-02. As of

December 31, 2017, the Company is in the process of assessing the effects that adoption will have on its consolidated financial statements prepared in accordance with IFRS.

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017****Note 3. Acquisition**

On November 16, 2015, the Company infused cash of \$1,780 thousand into Liqxtal Technology Inc. (“Liqxtal”) in exchange for 64 percent of the outstanding common shares of Liqxtal. Acquisition costs, which are charged to expense as incurred, were insignificant. The results of Liqxtal’s operations have been included in the Company’s consolidated financial statements since that date. The amounts of Liqxtal’s revenues and losses included in the consolidated statements of income from the acquisition date to the period ended December 31, 2015 were nil and \$30 thousand, respectively. Liqxtal mainly develops the technology on Liquid Crystal Lens (“LC Lens”). As a result of the acquisition, the Company is expected to further strengthen the Company’s competitiveness in the head-mounted displays with the addition of technology resources.

The following table summarizes the amounts of estimated fair value of the assets acquired and liabilities assumed at the date of acquisition.

	At November 16, 2015 (in thousands)	
Recognized amounts of identifiable assets acquired and liabilities assumed:		
Cash	\$	2,121
Current assets, other than cash		57
Intangible assets		732
Current liabilities	(5	)
Deferred income tax liabilities	(124	)
Total identifiable net assets acquired		2,781
Noncontrolling interests	(1,001	)
Total consideration paid	\$	1,780



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The fair value of acquired intangible assets and noncontrolling interests were determined based on management's estimates. The intangible assets were core and developed technology and will be amortized based on a weighted-average useful life of 7 years.

The following unaudited pro forma results of operations for the year ended December 31, 2015 were presented as if the acquisition had been consummated at the beginning of 2015 (dollars in thousands except per share amounts):

	<b>For the year ended</b>
	<b>December 31, 2015</b>
	<b><u>(unaudited)</u></b>
Net revenues	\$ 691,789
Net income attributable to Himax Technologies, Inc. stockholders	\$ 25,128
Basic and diluted earnings per ordinary share attributable to Himax Technologies, Inc. stockholders	\$ 0.07

The above unaudited pro forma information does not reflect any incremental direct costs, including any restructuring charges to be recorded in connection with the acquisition, or any potential cost savings that may result from the consolidation of certain operations of the Company or Liqxtal. Accordingly, the unaudited pro forma financial information above not necessarily indicative the actual results that would have occurred had the acquisition of Liqxtal been combined during the periods presented, nor is it necessarily indicative of future consolidated results of operations.

**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017****Note 4. Investments in Marketable Securities Available-for-Sale**

Following is a summary of marketable securities as of December 31, 2016 and 2017:

	December 31, 2016			
	<b>Gross</b>	<b>Gross</b>	<b>Aggregate</b>	
	<b>Aggregate</b>			
	<b>Unrealized</b>	<b>Unrealized</b>	<b>Market</b>	
	<b>Cost</b>	<b>Gains</b>	<b>Losses</b>	<b>Value</b>
	<b>(in thousands)</b>			
Time deposit with original maturities more than three months	\$5,539	-	(399)	) 5,140
Money market fund	4,968	49	-	5,017
Total	\$10,507	49	(399)	) 10,157

  

	December 31, 2017			
	<b>Gross</b>	<b>Gross</b>	<b>Aggregate</b>	
	<b>Aggregate</b>			
	<b>Unrealized</b>	<b>Unrealized</b>	<b>Market</b>	
	<b>Cost</b>	<b>Gains</b>	<b>Losses</b>	<b>Value</b>
	<b>(in thousands)</b>			
Time deposit with original maturities more than three months	\$10,434	-	(76)	) 10,358
Money market fund	473	48	-	521
Total	\$10,907	48	(76)	) 10,879

The Company's portfolio of available for sale marketable securities by contractual maturity or the expected holding period as of December 31, 2016 and 2017 is due in one year or less.

Information on sales of available for sale marketable securities for the years ended December 31, 2015, 2016 and 2017 is summarized below.

Period	<b>Proceeds Gross</b>		<b>Gross</b>	
	<b>from</b>	<b>realized gains</b>	<b>realized losses</b>	
	<b>sales</b>			
	<b>(in thousands)</b>			
Year 2015	\$46,720	261	(38	)
Year 2016	\$38,532	137	(127	)
Year 2017	\$47,119	204	(16	)

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017****Note 5. Allowance for Doubtful Accounts, Sales Returns and Discounts**

The activity in the allowance for doubtful accounts, sales returns and discounts for the years ended December 31, 2015, 2016 and 2017 is as follows:

**Allowance for doubtful accounts**

Period	Balance at beginning of year (in thousands)	Charges to earnings	Amounts utilized	Balance at end of year
Year 2015	\$727	310	(262 )	775
Year 2016	\$775	620	-	1,395
Year 2017	\$1,395	155	(1,550 )	-

**Allowance for sales returns and discounts**

Period	Balance at beginning	Charges to earnings	Amounts utilized	Balance at end of year
--------	----------------------------	------------------------	---------------------	------------------------------

**of  
year  
(in thousands)**

Year 2015	\$868	8,887	(8,982 )	773
Year 2016	\$773	10,624	(9,861 )	1,536
Year 2017	\$1,536	8,720	(9,053 )	1,203

Note 6. Equity Method Investments

As of December 31, 2016 and 2017, equity method investments consisted of the following:

	December 31, 2016		2017	
	<b>Holding</b>		<b>Holding</b>	
	Amount		Amount	
		%		%
	<b>(in thousands)</b>			
Viewsil Microelectronics (Kunshan) Limited	\$2,318	49.00	2,214	49.00
Iris Optronics Co., Ltd.	44	2.06	30	2.06
Kneron Inc.	-	-	6,598	27.65
Emza Visual Sense Ltd.	-	-	1,802	45.10
Ganzin Technology Corp.	-	-	95	28.93
	<b>\$2,362</b>		<b>10,739</b>	

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## HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

### Notes to Consolidated Financial Statements (Continued)

#### December 31, 2015, 2016 and 2017

Viewsil Microelectronics (Kunshan) Limited (“Viewsil”) mainly engaged in IC design and sales and was purchased in March 2015. As of December 31, 2016 and 2017, the difference between the carrying amount of the Company’s investment in Viewsil and the underlying equity in the net assets of Viewsil was \$1,897 thousand which represents investor level goodwill. For the years ended December 31, 2015, 2016 and 2017, the Company’s equity in losses of Viewsil was \$71 thousand, \$1,266 thousand and \$173 thousand, respectively.

Kneron Inc. (“Kneron”) mainly engaged in artificial intelligence chip made and was purchased with original investment amount of \$6,850 thousand in November 2017. At investment date, the difference between the carrying amount of the Company’s investment in Kneron and the underlying equity in the net assets of Kneron was \$3,636 thousand which was resulting from Kneron’s identifiable intangible assets and is being amortized over 7 years. As of December 31, 2017, the excess of cost of such investment in Kneron over the Company’s share of the net assets of Kneron was \$3,571 thousand. For the year ended December 31, 2017, the Company’s equity in losses of Kneron was \$252 thousand.

Emza Visual Sense Ltd. (“Emza”) is mainly engaged in develops of visual sensors and efficient machine vision algorithm. It 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 from Emza which occurred in 2016. At investment date, the difference between the carrying amount of the Company’s investment in Emza and the underlying equity in the net assets of Emza was \$1,719 thousand which was resulting from Emza’s identifiable intangible assets and is being amortized over 7 years. As of December 31, 2017, the excess of cost of such investment in Emza over the Company’s share of the net assets of Emza was \$1,535 thousand. For the year ended December 31, 2017, the Company’s equity in losses of Emza was \$757 thousand.

Ganzin Technology Corp. mainly engaged in eye tracking chip and module and was purchased with original investment amount of \$95 thousand in December 2017.

The Company sold the investments in Create Electronic Optical Co., Ltd. in January 2015 for proceeds of \$179 thousand and recognized gain on sale of securities of \$88 thousand, which is included in “Gains on sale of securities, net”.

As of December 31, 2017, it was not practicable for management to estimate the fair values of the Company’s investments due to the lack of quoted market price and the inability to estimate the fair values without incurring excessive costs. However, management identified no events or changes in circumstance that may significantly affect the Company’s ability on recovering the carrying values of these investments.

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# **HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES**

## **Notes to Consolidated Financial Statements (Continued)**

### **December 31, 2015, 2016 and 2017**

#### **Note 7. Inventories**

As of December 31, 2016 and 2017, inventories consisted of the following:

	December 31, 2016      2017 (in thousands)	
Finished goods	\$54,357	46,365
Work in process	57,076	54,084
Raw materials	38,273	34,220
Supplies	42	531
	\$149,748	135,200

Inventory write-downs were \$9,785 thousand, \$23,342 thousand and \$12,298 thousand for the years ended December 31, 2015, 2016 and 2017, respectively, and are included in cost of revenues.

#### **Note 8. Other Intangible Assets, Other than Goodwill**

	December 31, 2016		
	<b>Gross carrying amount</b>	<b>Weighted average amortization period (in thousands)</b>	<b>Accumulated amortization</b>
Amortized intangible assets:			
Technology	\$6,889	7 years	3,771
Patents	100	15 years	48



Total	\$6,989	3,819
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December 31, 2017

	<b>Gross carrying amount</b>	<b>Weighted average amortization period (in thousands)</b>	<b>Accumulated amortization</b>
Amortized intangible assets:			
Technology	\$6,889	7 years	4,756
Patents	100	15 years	54
Total	\$6,989		4,810

Amortization expense for the years ended December 31, 2015, 2016 and 2017 was \$852 thousand, \$991 thousand and \$991 thousand, respectively. Estimated amortization expense for the next five years is \$991 thousand in 2018, \$603 thousand in 2019, \$214 thousand in 2020 and 2021, and \$145 thousand in 2022.

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# **HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES**

## **Notes to Consolidated Financial Statements (Continued)**

### **December 31, 2015, 2016 and 2017**

#### **Note 9. Property, Plant and Equipment**

	December 31,	
	2016	2017
	<b>(in thousands)</b>	
Land	\$ 14,328	14,328
Building and improvements	22,821	24,944
Machinery	42,687	54,262
Research and development equipment	26,695	35,180
Software	12,902	10,484
Office furniture and equipment	11,210	11,694
Others	27,269	29,158
	157,912	180,050
Accumulated depreciation and amortization	(111,915)	(122,148)
Prepayment for purchases of land, building and equipment	2,175	28,771
	\$48,172	86,673

Depreciation and amortization of these assets for the years ended December 31, 2015, 2016 and 2017 were \$13,312 thousand, \$12,765 thousand and \$15,689 thousand, respectively.

#### **Note 10. Investments in Non-Marketable Equity Securities**

Following is a summary of such investments which are accounted for using the cost method as of December 31, 2016 and 2017:

December 31,  
2016      2017

**(in thousands)**

Chi Lin Optoelectronics Co., Ltd.	\$488	356
Chi Lin Technology Co., Ltd.	432	406
C Company	8,962	-
TIEF Fund, L. P.	1,600	1,600
eTurboTouch Technology Inc.	477	477
Shinyoptics Corp.	283	283
	\$12,242	3,122

Chi Lin Optoelectronics Co., Ltd. reduced its capital and returned \$137 thousand and \$132 thousand to the Company in December 2016 and September 2017, respectively. Chi Lin Technology Co., Ltd. reduced its capital and returned \$26 thousand to the Company in December 2017, which is booked as “Prepaid expenses and other current assets”. Jetronics International Corp. reduced its capital and returned \$431 thousand to the Company in June 2016. Jetronics International Corp. was liquidated in September 2016.

**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

The Company sold the investments in L Company in May 2014 for total proceeds of \$16,425 thousand, of which \$14,743 thousand received in May 2014 and \$1,682 thousand received in May 2015. The Company recognized gain on sale of securities of \$1,682 thousand for the year ended December 31, 2015, which is included in “Gains (losses) on sale of securities, net”.

The Company sold the investments in C Company in December 2017 for proceeds of \$32,000 thousand, of which \$10,000 thousand received in December 2017 and the balance of \$22,000 thousand is booked as “Prepaid expenses and other current assets”. The Company recognized a gain on sale of securities of \$23,038 thousand and withholding tax of \$2,304 thousand for the year ended December 31, 2017, which is included in “Gains on sale of securities, net” and “Income taxes payable”, respectively. The Company received the balance of \$22,000 thousand before the end of January 2018.

As of December 31, 2016 and 2017, except for the above impaired investments, the fair values of the Company’s investments in non-marketable equity securities were not estimated because management did not identify events or changes in circumstance that may significantly affect the Company’s ability on recovering the carrying values of these investments, and it was not practicable for management to estimate the fair values of these investments due to the lack of quoted market price and the inability to estimate the fair value without incurring excessive costs.

**Note 11. Other Accrued Expenses and Other Current Liabilities**

	December 31, 2016      2017 (in thousands)	
Accrued mask, mold fees and other expenses for RD	\$7,503	8,816
Payable for purchases of building and equipment	1,615	10,726
Accrued software maintenance	891	1,004
Accrued payroll and related expenses	6,958	9,461

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Accrued professional service fee	923	1,050
Sales received in advance	1,193	603
Accrued warranty costs	48	40
Accrued insurance, welfare expenses, etc.	10,590	9,568
	\$29,721	41,268

The movement in accrued warranty costs for the years ended December 31, 2015, 2016 and 2017 is as follows:

Period	Balance at beginning of year (in thousands)	Additions charged to expense	Amounts utilized	Balance at end of year
Year 2015	\$ 103	1,121	(997 )	227
Year 2016	\$ 227	11	(190 )	48
Year 2017	\$ 48	146	(154 )	40

**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017****Note 12. Short-Term Debt**

In 2015, 2016 and 2017, short-term debt consisted of bank loans with interest rates per annum that ranged from 0.32% to 0.45%, 0.32% to 0.55% and 0.35% to 0.58%, respectively, and as of December 31, 2016 and 2017, cash, cash equivalents and marketable securities totaling \$138,000 thousand and \$147,000 thousand are pledged as collateral, respectively.

As of December 31, 2017, unused credit lines amounted to \$238,695 thousand and will expire between March 2018 and January 2019. Among which, \$672 thousand will expire in March 2018, and \$176,000 thousand belonging to the holding companies need to be secured with equal amount of cash, cash equivalents or marketable securities.

**Note 13. Government Grants**

The Company entered into several contracts with Institute for Information Industry (III) during 2015, 2016 and 2017 primarily for the development of certain new leading products or technologies. Details of these contracts are summarized below:

<b>Authority</b>	<b>Total Grant (in thousands)</b>	<b>Execution Period</b>	<b>Product Description</b>
III	NT\$ 72,000 (US\$2,416)	January 2013 to June 2014	MEMS Development Program
III	27,500 (US\$923)	April 2013 to December 2014	Wafer-Level Lens Development Program
III	135,000 (US\$4,265)	August 2014 to July 2017	LCOS Display Module Development Program
III	10,000 (US\$336)		

January 2017 to  
December 2018

Electronic control of large aperture liquid crystal lens  
technology in the wisdom glasses platform

Government grants recognized by the Company as a reduction of research and development expense in the consolidated statements of income in 2015, 2016 and 2017 were \$1,508 thousand, \$1,431 thousand and \$717 thousand, respectively.

#### Note 14. Retirement Plan

The Company has established a Defined Benefit Plan covering full-time employees in the ROC which were hired by the Company before January 1, 2005. In accordance with the Defined Benefit Plan, employees are eligible for retirement or are required to retire after meeting certain age or service requirements. Retirement benefits are based on years of service and the average salary for the six-month period before the employee's retirement. Each employee earns two months of salary for each of the first fifteen years of service, and one month of salary for each year of service thereafter. The maximum retirement benefit is 45 months of salary. Retirement benefits are paid to eligible participants on a lump-sum basis upon retirement.

## **HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES**

### **Notes to Consolidated Financial Statements (Continued)**

#### **December 31, 2015, 2016 and 2017**

Defined Benefit Plan assets consist entirely of a Pension Fund (the “Fund”) denominated solely in cash, as mandated by ROC Labor Standard Law. The Company contributes an amount equal to 2% of wages and salaries paid every month to the Fund (required by law). 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.

The Company’s pension fund is managed by a government-established institution with minimum return guaranteed by government and the fund asset is treated as cash category.

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. Expense recognized in 2015, 2016 and 2017, based on the contribution called for was \$2,455 thousand, \$2,827 thousand and \$3,367 thousand, respectively.

Substantially all participants in the Defined Benefits Plan had elected to participate in the Defined Contribution Plan. The transfer of participants to the Defined Contribution Plan did not have a material effect on the Company’s financial position or results of operations. Participants’ accumulated benefits under the Defined Benefit Plan are not impacted by their election to change the plans and their seniority remains regulated by ROC Labor Standard Law, such as the retirement criteria and the amount payable. The Company is required to make contribution for the Defined Benefit Plan until it is fully funded. Pursuant to relevant regulatory requirements, the Company expects to make a cash contribution of \$136 thousand to its pension fund maintained with the Bank of Taiwan and \$3,955 thousand to the employees’ individual pension fund accounts at the ROC Bureau of Labor Insurance in 2018.

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 \$1,445 thousand, \$1,371 thousand, and \$1,523 thousand for the years ended December 31, 2015, 2016 and 2017, respectively.

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

The Company uses a measurement date of December 31 for the Defined Benefit Plan. The changes in projected benefit obligation, plan assets and details of the funded status of the Plan are as follows:

	December 31, 2016      2017 (in thousands)	
Change in projected benefit obligation:		
Benefit obligation at beginning of year	\$3,535	3,868
Service cost	16	16
Interest cost	72	72
Actuarial loss	31	76
Effect of foreign currency rate changes	214	326
Benefit obligation at end of year	3,868	4,358
Change in plan assets:		
Fair value at beginning of year	2,803	2,992
Actual return on plan assets	21	32
Employer contribution	124	133
Effect of foreign currency rate changes	44	253
Fair value at end of year	2,992	3,410
Funded status	\$(876 )	(948 )
Amounts recognized in the balance sheet consist of:		
Prepaid pension costs	\$188	204
Accrued pension liabilities	(1,064)	(1,152)
Net amount recognized	\$(876 )	(948 )

Amounts recognized in accumulated other comprehensive loss was net actuarial loss of \$1,906 thousand, \$1,905 thousand and \$2,055 thousand at December 31, 2015, 2016 and 2017, respectively.

The accumulated benefit obligation for the Defined Benefit Plan was \$1,332 thousand and \$1,548 thousand at December 31, 2016 and 2017, respectively. As of December 31, 2016 and 2017, no employee was eligible for

retirement or was required to retire.

For the years ended December 31, 2015, 2016 and 2017, the net periodic pension cost consisted of the following:

	Year Ended December 31,		
	2015	2016	2017
	<b>(in thousands)</b>		
Service cost	\$ -	16	16
Interest cost	61	72	72
Expected return on plan assets	(54 )	(52 )	(52 )
Net amortization	59	99	106
Net periodic pension cost	\$ 66	135	142

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# **HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES**

## **Notes to Consolidated Financial Statements (Continued)**

### **December 31, 2015, 2016 and 2017**

The net actuarial loss for the defined benefit pension plan that will be amortized from accumulated other comprehensive loss into net periodic benefit cost in 2018 is \$111 thousand.

At December 31, 2016 and 2017, the weighted-average assumptions used in computing the benefit obligation are as follows:

	December 31,	
	2016	2017
Discount rate	1.80 %	1.60 %
Rate of increase in compensation levels	5.00 %	5.00 %

For the years ended December 31, 2015, 2016 and 2017, the weighted average assumptions used in computing net periodic benefit cost are as follows:

	Year Ended December 31,		
	2015	2016	2017
	Whole		
Discount rate	2.00 %	1.80 %	1.60 %
Rate of increase in compensation levels	5.00 %	5.00 %	5.00 %
Expected long-term rate of return on pension assets	2.00 %	1.80 %	1.60 %

Management determines the discount rate and expected long-term rate of return on plan assets based on the yields of twenty year ROC central government bonds which is in line with the respective employees remaining service period and the historical long-term rate of return on the above mentioned Fund mandated by the ROC Labor Standard Law.

The benefits expected to be paid from the defined benefit pension plan is \$75 thousand in 2018, \$23 thousand in 2019, \$36 thousand in 2020, \$15 thousand in 2021, \$466 thousand in 2022 and \$1,461 thousand from 2023 to 2027.

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017****Note 15. Share-Based Compensation**

The amount 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,		
	2015	2016	2017
	<b>(in thousands)</b>		
Cost of revenues	\$ 110	224	204
Research and development	4,289	7,586	5,234
General and administrative	865	1,210	865
Sales and marketing	1,010	1,389	942
Total compensation recognized in income	\$ 6,274	10,409	7,245
Income tax benefit	\$ 1,342	2,164	1,540

The above income tax benefit excludes excess tax benefits and deficiencies. For the year ended December 31, 2016, the tax deficiency was \$142 thousand.

(a)

**Long-term Incentive Plan**

On September 7, 2011, the Company's shareholders approved a long-term incentive plan. 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 26, 2012, the Company's compensation committee made grants of 5,522,279 RSUs to the Company's employees. The vesting schedule for the RSUs is as follows: 58.36% of the RSUs grant vested immediately on the grant date which was settled by cash amounting to \$6,286 thousand, a subsequent 13.88% will vest on each of September 30, 2013, 2014 and 2015 which will be settled by the Company's ordinary shares, subject to certain forfeiture events.

On September 26, 2013, the Company's compensation committee made grants of 867,771 RSUs to the Company's employees. The vesting schedule for the RSUs is as follows: 88.90% of the RSUs grant vested immediately on the grant date which was settled by cash amounting to \$7,833 thousand, a subsequent 3.70% will vest on each of September 30, 2014, 2015 and 2016 which will be settled by the Company's ordinary shares, subject to certain forfeiture events.

On September 26, 2014, the Company's compensation committee made grants of 1,219,791 RSUs to the Company's employees. The vesting schedule for the RSUs is as follows: 82.57% of the RSUs grant vested immediately on the grant date which was settled by cash amounting to \$9,337 thousand, a subsequent 5.81% will vest on each of September 30, 2015, 2016 and 2017 which will be settled by the Company's ordinary shares, subject to certain forfeiture events.

## **HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES**

### **Notes to Consolidated Financial Statements (Continued)**

#### **December 31, 2015, 2016 and 2017**

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.

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 \$1.95 per ADS, \$10.15 per ADS, \$9.27 per ADS, \$7.92 per ADS, \$8.30 per ADS and \$10.93 per ADS on September 26, 2012, September 26, 2013, September 26, 2014, September 25, 2015, September 28, 2016 and September 29, 2017, respectively.

RSUs activity under the long-term incentive plan during the periods indicated is as follows:



	<b>Number of Underlying Shares for RSUs</b>	<b>Weighted Average Grant Date Fair Value</b>
Balance at January 1, 2015	964,006	\$ 4.11
Granted	597,596	7.92
Vested	(1,257,803)	) 5.19
Forfeited	(99,792)	) 2.94
Balance at December 31, 2015	204,007	9.17
Granted	1,208,785	8.30
Vested	(1,207,241)	) 8.39
Forfeited	(23,063)	) 9.04
Balance at December 31, 2016	182,488	8.60
Granted	580,235	10.93
Vested	(662,368)	) 10.62
Forfeited	(7,755)	) 8.77
Balance at December 31, 2017	92,600	8.77

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

As of December 31, 2017, the total compensation cost related to the unvested RSUs not yet recognized was \$740 thousand. The weighted-average period over which it is expected to be recognized is 1.83 years.

In 2015, 2016 and 2017, the Company settled RSUs release with shares buyback of 1,390,280 shares, 191,994 shares and 200,074 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,		
	2015	2016	2017
	(in thousands)		
Cost of revenues	\$ 87	132	112
Research and development	4,249	7,423	5,071
General and administrative	855	1,174	828
Sales and marketing	1,006	1,373	927
Total compensation from RSUs	\$ 6,197	10,102	6,938
Income tax benefit	\$ 1,342	2,164	1,540

(b)

Employee stock options

(i) On July 1, 2012, July 1, 2013 and January 1, 2016, board of directors of Imaging Cayman approved a plan to grant stock options, the 2012 plan, the 2013 plan and the 2016 plan, respectively, to certain employees. These three plans authorize grants to purchase up to 2,000,000 shares, 430,000 shares and 1,760,000 shares, respectively, of Imaging Taiwan' issued ordinary shares held by Imaging Cayman. The exercise price was NT\$30 (US\$1.004), NT\$30 (US\$1) and NT\$30 (US\$0.9139), respectively. Himax Taiwan obtained all Imaging Taiwan' issued ordinary shares

previously held by Imaging Cayman 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 2012 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 2013 plan has three years contractual life and two years vesting period. Based on the vesting schedule, 50% of the options vest half years after the date of grant and 50% of the options vest two years after the date of grant. 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.

**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

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 Cayman 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.

	2012 plan		2013 plan		2016 plan	
Valuation assumptions:						
Expected dividend yield	0	%	0	%	0	%
Expected volatility	43.29	%	39.50	%	38.04	%
Expected term (years)	3.125		2.125		3.125	
Risk-free interest rate	0.87	%	0.85	%	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, 2015	1,310,000	\$ 1.003	1.5
Granted	-	-	
Exercised	-	-	
Forfeited	(85,000 )	1.003	
Balance at December 31, 2015	1,225,000	1.003	0.5
Granted	631,000	0.9139	
Exercised	-	-	

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Forfeited	(1,240,000)	1.002	
Balance at December 31, 2016	616,000	0.9139	3.0
Granted	-	-	
Exercised	-	-	
Forfeited	(35,000 )	0.9139	
Balance at December 31, 2017	581,000	0.9139	2.0
Exercisable at December 31, 2017	290,500	0.9139	

On January 1, 2016, board of directors of Imaging Taiwan approved a plan to grant stock options, the 2016 plan, to (ii) 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).

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

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:

	<b>Number of shares</b>	<b>Weighted average exercise price</b>	<b>Weighted average remaining contractual term</b>
--	-----------------------------	--	--

Balance at January 1, 2016	-	\$ -	
Granted	1,925,000	0.9139	
Exercised	-	-	
Forfeited	(128,000 )	0.9139	
Balance at December 31, 2016	1,797,000	0.9139	3.0
Granted	-	-	
Exercised	(115,000 )	0.9139	
Forfeited	(173,000 )	0.9139	
Balance at December 31, 2017	1,509,000	0.9139	2.0
Exercisable at December 31, 2017	697,000	0.9139	

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## HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

### Notes to Consolidated Financial Statements (Continued)

#### December 31, 2015, 2016 and 2017

On October 6, 2015, board of directors of Himax Display approved a plan to grant stock options, the 2015 plan, to (iii) certain employees. This plan authorizes grants to purchase up to 2,528,000 shares of Himax Display' 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 \$77 thousand, \$307 thousand and \$307 thousand in 2015, 2016 and 2017, respectively. Such compensation expense was recorded as cost of revenues, sales and marketing expenses, general and administrative expense and research and development expenses in the consolidated statements of income. There was no income tax benefit realized in the consolidated statements of income for employee stock options for the years ended December 31, 2015, 2016 and 2017.

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 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' 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 %



**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

Stock option activity during the periods indicated is as follows:

	<b>Number of shares</b>	<b>Weighted average exercise price</b>	<b>Weighted average remaining contractual term</b>
Balance at January 1, 2015	-	\$ -	
Granted	2,025,000	1.986	
Exercised	-	-	
Forfeited	-	-	
Balance at December 31, 2015	2,025,000	1.986	3.75
Granted	-	-	
Exercised	-	-	
Forfeited	(32,000 )	1.986	
Balance at December 31, 2016	1,993,000	1.986	2.75
Granted	-	-	
Exercised	-	-	
Forfeited	(50,000 )	1.986	
Balance at December 31, 2017	1,943,000	1.986	1.75
Exercisable at December 31, 2017	971,500	1.986	

**Note 16. Equity****(a) Share capital**

In April 2011, the Companies Law of the Cayman Islands was amended to permit treasury shares if so approved by the board and to the extent that the articles do not prohibit treasury shares. Therefore, the Company would hold the treasury shares not been cancelled used for settle future employees awards. 12,491,990 treasury shares were held by

the Company as of December 31, 2017.

(b) 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.

**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

The accumulated legal and special reserve provided by Himax Taiwan as of December 31, 2016 and 2017 amounted to \$71,447 thousand and \$78,386 thousand, respectively.

**Note 17. Comprehensive Income**

The components of accumulated other comprehensive loss, net of tax, are as follows:

	Foreign currency items	Unrealized gains (losses) on securities (in thousands)	Defined benefit pension plan	Accumulated other comprehensive income (loss)
Beginning balance, January 1, 2016	\$208	(238 )	(1,849 )	(1,879 )
Other comprehensive income (loss) before reclassifications	(479)	(118 )	6	(591 )
Reclassification adjustments for losses reclassified into income, net of tax of nil	-	3	-	3
Ending balance, December 31, 2016	(271)	(353 )	(1,843 )	(2,467 )
Other comprehensive income (loss) before reclassifications	862	466	(138 )	1,190
Reclassification adjustments for gains reclassified into income, net of tax of nil	-	(153 )	-	(153 )
Ending balance, December 31, 2017	\$591	(40 )	(1,981 )	(1,430 )

Reclassification adjustments for losses (gains) reclassified into income were presented in “Gains on sale of securities, net” in the consolidated statements of income.

**Note 18. 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 (benefit) 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.

The statutory tax rate applicable to the subsidiaries located in the ROC is 17%. An additional 10% corporate income tax is assessed on undistributed earnings for the entities in the ROC, but only to the extent such income is not distributed or set aside as legal reserve before the end of the following year. The 10% 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.

## HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

### Notes to Consolidated Financial Statements (Continued)

#### December 31, 2015, 2016 and 2017

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:	
October 9, 2009	January 1, 2014-December 31, 2018

The income tax exemption resulted in an income tax benefit of \$1,759 thousand, \$3,922 thousand and \$548 thousand and the increase to basic and diluted earnings per ordinary share effect resulting from the income tax exemption is \$0.01, \$0.01 and \$0.002 for the years ended December 31, 2015, 2016 and 2017, respectively.

Income (loss) before income taxes for domestic and foreign entities is as follows:

Year Ended December 31,			
2015	2016	2017	

**(in thousands)**

Taiwan operations	\$28,349	63,347	10,333
Cayman operations	4,363	(4,569 )	(2,843 )
Samoa operations	-	-	22,938
US operations	(719 )	(842 )	(947 )
China operations	825	1,336	659
Korea operations	33	124	179
Japan operations	16	22	19
	\$32,867	59,418	30,338

The components of income tax expense (benefit) attributable to continuing operations for the years ended December 31, 2015, 2016 and 2017 consist of the following:

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

	Year Ended December 31,		
	2015	2016	2017
	(in thousands)		
Current:			
Taiwan operations – based on statutory tax rate of 17%	\$1,467	6,451	2,416
Taiwan operations – 10% of surtax	5,405	5,733	1,020
Samoa operation	-	-	2,304
US operations	24	107	37
China operations	338	308	280
Korea operations	17	43	57
Japan operations	6	7	7
Total current tax expense	7,257	12,649	6,121
Deferred:			
Taiwan operations – based on statutory tax rate of 17%	4,527	(2,033 )	(1,592 )
Taiwan operations – 10% of surtax	(287 )	(1 )	119
US operations	(18 )	10	(22 )
China operations	(68 )	61	(90 )
Korea operations	(6 )	(15 )	(16 )
Total deferred tax expense (benefit)	4,148	(1,978 )	(1,601 )
Income tax expense	\$11,405	10,671	4,520

The significant components of deferred tax expense (benefit) attributable to income from continuing operations for the years ended December 31, 2015, 2016 and 2017 are as follows:

	Year Ended December 31,		
	2015	2016	2017
	(in thousands)		
Deferred income tax expense (benefit), exclusive of the effects of other components listed below	\$(546 )	(405 )	116
Tax expenses (benefits) of unrealized foreign exchange gain	512	(1,569 )	(1,110 )
Tax expenses (benefits) of allowance for doubtful accounts	2,304	(4 )	11

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Tax expenses (benefits) of used (unused) tax credits	3,337	-	(618 )
Tax benefits of advanced share-based compensation deductions	(1,459)	-	-
	\$4,148	(1,978)	(1,601)

The applicable combined tax rate for Taiwan was 23.85%, consisting of an aggregate calculation of the 17% statutory income tax, the 10% undistributed earning tax, and how the taxes interact with each other.

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

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 decrease in the undistributed earning tax from 10% to 5% are effective from January 1, 2018. This increase does not affect the amounts of the current or deferred taxes recognized for the year ended December 31, 2017. However, it will affect the Company’s current tax expense in the future, and deferred taxes will be remeasured in 2018, the period of enactment. If the new tax rates were to be applied in measuring deferred taxes for temporary differences and operating loss carryforwards recognized on December 31, 2017, the deferred tax assets and deferred tax liabilities would increase by \$1,195 thousand and \$2 thousand, respectively. And the applicable combined tax rate for Taiwan will become 23.44%, consisting of an aggregate calculation of the 20% statutory income tax, and the 5% undistributed earning tax.

The differences between expected income tax expense, computed based on the ROC statutory income tax rate of 17% of earnings before income taxes and the actual income tax expense as reported in the consolidated statements of income for the years ended December 31, 2015, 2016 and 2017 are summarized as follows:

	Year Ended December 31, 2015      2016      2017 (in thousands)		
Expected income tax expense	\$5,587	10,101	5,158
Tax on undistributed earnings	3,011	3,111	(1,181)
Tax-exempt income	(1,759)	(3,922)	(548)
Tax benefit resulting from setting aside legal reserve from prior year’s income	(839)	(541)	(686)
Realized tax losses on investments in subsidiaries due to capital reduction to offset the accumulated deficit	(2,157)	-	-
Increase in tax credits	(4,242)	(4,970)	(3,919)
Increase in deferred tax asset valuation allowance	6,640	6,802	5,822
Capital gain Tax	-	-	2,304
Changes in unrecognized tax benefits related to prior year tax positions, net of its impact to tax-exempted income	915	(294)	(298)
Tax effect resulting from foreign currency matters(*)	3,583	(1,598)	-
Foreign tax rate differential	(454)	1,339	(2,565)

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Variance from audits, amendments and examinations of prior years' income tax filings	793	69	462
Others	327	574	(29 )
Actual income tax expense	\$11,405	10,671	4,520

(\*) The subsidiaries located in the R.O.C. changed their functional currency of the tax basis of assets and liabilities from NT dollar to U.S. dollar. Accordingly these subsidiaries are now having a U.S. dollar dominated tax basis and U.S. GAAP functional currency.

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

The amount of income tax expense (benefit) for the years ended December 31, 2015, 2016 and 2017 was allocated as follows:

	Year Ended December 31, 2015      2016      2017 (in thousands)		
Income from continuing operations	\$ 11,405	10,671	4,520
Other comprehensive income (loss)	(168 )	6	(25 )
Excess tax benefits allocated to additional paid-in capital from share-based compensation	(771 )	-	-
Retained earnings for previously unrecognized excess tax benefits	-	(141 )	-
	\$ 10,466	10,536	4,495

As of December 31, 2016 and 2017, the components of deferred income tax assets (liabilities) were as follows:

	December 31, 2016      2017 (in thousands)	
Deferred tax assets:		
Inventory	\$ 7,305	6,639
Tax credit carryforwards	1,328	2,178
Operating loss carryforward-statutory tax	34,341	38,264
Operating loss carryforward-undistributed earnings tax	14,695	17,930
Other	2,425	2,646
Total gross deferred tax assets	60,094	67,657
Less: valuation allowance	(51,242)	(58,943)
Net deferred tax assets	8,852	8,714
Deferred tax liabilities:		
Unrealized foreign exchange gain	(1,181 )	(29 )
Prepaid pension cost	(417 )	(450 )

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Acquired intangible assets	(1,178 )	(572 )
Other	(46 )	(7 )
Total gross deferred tax liabilities	(2,822 )	(1,058 )
Net deferred tax assets	\$ 6,030	7,656

As of December 31, 2017, the Company has not provided for income taxes on undistributed earnings of approximately \$594,471 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.

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

The activity in the valuation allowance for deferred tax assets for the years ended December 31, 2015, 2016 and 2017 follows:

Period	Balance at beginning of year (in thousands)	Additions Charges to earnings	Deductions- Credits to earnings	Expirations and Forfeitures	Others (Note)	Balance at end of year
Year 2015	\$40,966	6,640	-	(2,141)	) (1,145)	44,320
Year 2016	\$44,320	7,077	(275)	) (998)	) 1,118	51,242
Year 2017	\$51,242	6,153	(331)	) (1,481)	) 3,360	58,943

Note: Others represent the effect resulting from exchange rates and changes in consolidated entities.

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible and operating loss and tax credit carryforwards are available to be utilized. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax-planning strategies in making this assessment; however, the Company is not relying on significant tax-planning strategies. Over half of the deferred tax assets recognized net of the valuation allowance are dependent upon the projected future taxable income. Based upon the level of historical taxable income and projections for future taxable income over the periods in which the deferred tax assets are deductible, management believes it is more likely than not that the Company will realize the benefits of the deferred tax assets, net of the valuation allowance at December 31, 2017. The amount of the deferred tax asset considered realizable, however, could be reduced in the near term if estimates of future taxable income during the carryforward period are reduced.

Each entity within the Company files separate standalone income tax return. Except for Himax Taiwan, Himax Semiconductor, Himax Korea, Himax Japan, Himax Technologies (Suzhou) Co., Ltd., Himax Technologies (Shenzhen) Co., Ltd., and Himax Imaging Corp., most of other subsidiaries of the Company have generated tax losses since their inception; therefore, a valuation allowance of \$51,242 thousand and \$58,943 thousand as of December 31, 2016 and 2017, respectively, was provided to reduce their deferred tax assets (consisting primarily of operating loss carryforwards and unused tax credit carryforwards) to zero because management believes it is unlikely that these tax benefits will be realized. For the year ended December 31, 2015, 2016 and 2017, Himax Media Solutions, Inc. realized a tax benefit of nil, \$275 thousand and \$331 thousand, respectively, related an unused loss carryforward that was previously offset by a valuation allowance.

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.

**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

As of December 31, 2017, the Company's unused operating loss carryforward for statutory tax were as follows:

	Deductible amount (in thousands)	Tax effect	Expiration year
Taiwan operations	\$ 104,276	\$ 17,727	2018~2022
	104,125	17,701	2023~2027
Hong Kong operations	1,798	297	Indefinitely
US operations	9,329	2,539	2024~2037
		<b>\$ 38,264</b>	

According to the ROC Statute for Upgrading Industries, which expired on December 31, 2009, investments in shares originally issued by ROC domestic companies that belong to newly emerging, important and strategic industries, entitles the Company after a three-year holding period to an income tax credit of twenty percent of the price paid for the acquisition of such shares. These credits may be applied over a period of five years. The amount of the tax credit that may be applied in any year, except the final year, is limited to 50% of the income tax payable for that year. There is no limitation on the utilization of the amount of investment tax credit to offset the income tax payable in the final year. All remaining tax credits under this program were utilized by December 31, 2015.

The Statute for Industrial Innovation entitles companies to tax credits for research and development expenses related to innovation activities but limits the amount of tax credits to only 15% of the total 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 cannot be carried forward. Based on the amendments to the Statute for Industrial Innovation, effective from January 1, 2016 to December 31, 2019, if the Company chooses to extend the tax credits to three years, the tax credit rate will be 10% of the total research and development expenditure for the current year and subject to a cap of 30% of the income tax payable for each year. The tax credits generated were \$4,242 thousand, \$4,970 thousand and \$4,557 thousand for the years ended December 31, 2015, 2016 and 2017, respectively. For the year ended December 31, 2015, 2016 and 2017, tax credits generated under this program have been utilized \$4,242 thousand, \$4,970 thousand and \$3,939 thousand, respectively.

As of December 31, 2017, all of the Company's unused tax credits were as follows:

	Tax effect (in thousands)	Expiration year
Taiwan operation	\$ 618	2018~2019
US operations	1,560	2020~2034
	\$ 2,178	

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	Year Ended December 31,		
	2015	2016	2017
	(in thousands)		
Balance at beginning of year	\$ 788	1,335	1,052
Increase related to prior year tax positions	292	-	384
Decrease related to prior year tax positions	-	(292 )	(641 )
Increase related to current year tax positions	630	-	-
Settlements	(368 )	-	-
Lapse of statute of limitations	(7 )	(2 )	(41 )
Effect of exchange rate change	-	11	-
Balance at end of year	\$ 1,335	1,052	754

Included in the balance of total unrecognized tax benefits at December 31, 2016 and 2017, are potential benefits of \$1,052 thousand and \$754 thousand, respectively that if recognized, would reduce the Company's effective tax rate. The interest and penalties related to unrecognized tax benefits recorded by the Company were nil for the years ended December 31, 2015, 2016 and 2017, respectively. As of December 31, 2016 and 2017, the accrued interest and penalties were \$108 thousand and \$117 thousand, respectively. Interest and penalties are not included in the tabular roll-forward of unrecognized tax benefits above.

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 2015. The income tax returns of 2016 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, 2017.

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017****Note 19. Fair Value Measurements**

The following table presents the Company's financial assets and liabilities that are measured at fair value on a recurring basis which were comprised of the following types of instruments at December 31, 2016 and 2017:

	<b>Fair Value Measurements at</b>		
	<b>December 31, 2016 Using</b>		
	Level 1	Level 2	Level 3
	<b>(in thousands)</b>		
Assets:			
Cash and cash equivalents:			
Time deposits with original maturities less than three months	\$ 13,055	-	-
Marketable securities available-for-sale:			
Time deposit with original maturities more than three months	-	5,140	-
Money market fund	5,017	-	-
Restricted marketable securities:			
Time deposits with original maturities of more than three months	-	324	-
Total	\$ 18,072	5,464	-
Liabilities:			
Short-term debt	\$ -	138,000	-
Total	\$ -	138,000	-

	<b>Fair Value Measurements at</b>		
	<b>December 31, 2017 Using</b>		
	Level 1	Level 2	Level 3
	<b>(in thousands)</b>		
Assets:			
Cash and cash equivalents:			
Time deposits with original maturities less than three months	\$ 22,559	-	-

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Marketable securities available-for-sale:

Time deposit with original maturities more than three months	-	10,358	-
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Money market fund	521	-	-
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Restricted marketable securities:

Time deposits with original maturities of more than three months	-	470	-
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Total	\$ 23,080	10,828	-
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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017****Fair Value Measurements at****December 31, 2017 Using**

	Level 1	Level 2	Level 3
<b>(in thousands)</b>			

## Liabilities:

Short-term debt	\$ -	147,000	-
Total	\$ -	147,000	-

Non-financial assets such as goodwill, intangible assets, and property, plant, and equipment are measured at fair value only when an impairment loss is recognized. No such impairments were recognized in 2015, 2016 and 2017.

There were no transfers between Level 1 and Level 2 of fair value hierarchy and no transfers into or out of Level 3 financial instruments during the years ended December 31, 2015, 2016 and 2017.

**Note 20. Significant Concentrations**

Financial instruments that currently subject the Company to concentrations of credit risk consist primarily of cash, cash equivalents, marketable securities and accounts receivable. The Company places its cash primarily in checking and saving accounts with reputable financial institutions. Marketable securities 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 marketable securities.

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 expects the Company to be substantially dependent on sales

to the TFT-LCD panel industry for the foreseeable future.

The Company depends on two customers for majority of its revenues and the loss of, or a significant reduction in orders would significantly reduce the Company's revenues and adversely impact the Company's operating results. The Company's sales to these two customers as a percentage of revenues are as follows:

	Year Ended December 31,		
	2015	2016	2017
Customer A and its affiliates	20.1 %	22.4 %	25.8 %
Customer B and its affiliates	21.1 %	15.2 %	15.5 %

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## HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

### Notes to Consolidated Financial Statements (Continued)

#### December 31, 2015, 2016 and 2017

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,	
	2016	2017
Customer A and its affiliates	29.2 %	32.6 %
Customer B and its affiliates	19.3 %	15.5 %

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 would 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.

The Company focuses on design, development and marketing of its products and outsources all its semiconductor fabrication, assembly and test. The Company primarily depends on ten foundries to manufacture its wafer, and any failure to obtain sufficient foundry capacity or loss of any of the foundries it uses could significantly delay the Company's ability to ship its products, cause the Company to lose revenues and damage the Company's customer relationships.

There are a limited number of companies which supply processed tape used to manufacture the Company's semiconductor products and therefore, from time to time, shortage of such processed tape may occur. If any of the Company's suppliers experience difficulties in delivering processed tape used in its products, the Company may not be able to locate alternative sources in a timely manner. Moreover, if shortages of processed tape were to occur, the Company may incur additional costs or be unable to ship its products to customers in a timely manner, which could

harm the Company's business customer relationships and negatively impact its earnings.

A limited number of third-party assembly and testing houses assemble and test substantially all of the Company's current products. As a result, the Company does not directly control its product delivery schedule, assembly and testing costs and quality assurance and control. If any of these assembly and testing houses experiences capacity constraints or financial difficulties, or suffers any damage to its facilities, or if there is any other disruption of its assembly and testing capacity, the Company may not be able to obtain alternative assembly and testing services in a timely manner. Because the amount of time the Company usually takes to qualify assembly and testing houses, the Company could experience significant delays in product shipments if it is required to find alternative sources. Any problems that the Company may encounter with the delivery, quality or cost of its products could damage the Company's reputation and result in a loss of customers and orders.

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# **HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES**

## **Notes to Consolidated Financial Statements (Continued)**

**December 31, 2015, 2016 and 2017**

### **Note 21. Related-party Transactions**

(a) Name and relationship

<b>Name of related parties</b>	<b>Relationship</b>
Viewsil Microelectronics (Kunshan) Limited (Viewsil)	Equity method investee of the Company
Viewsil Technology Limited (VST)	The subsidiary of Viewsil
Emza Visual Sense Ltd. (Emza)	Equity method investee of the Company

(b) Significant transactions with related parties

(i) Purchases and accounts payable

Purchases of raw materials and components from VST were \$576 thousand and \$522 thousand for the years ended December 31, 2016 and 2017, respectively. As of December 31, 2016 and 2017, the related payables resulting from the aforementioned transaction were \$576 thousand and nil, respectively. The purchase prices and payment terms to related parties were incomparable to that from third parties due to no similar transaction.

(ii) The Company made an interest-free loan to VST and Emza for their short-term funding needs, is summarized as follows:

December 31,  
2016    2017  
(in thousands)

VST    \$7,150    2,750

Emza	-	500
	\$7,150	3,250

The loan is repayable on demand and the Company expects it will be repaid in full during 2018. The Company may consider providing further future loans to VST and Emza.

(iii) In 2017, 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, which was charged to research and development expense. As of December 31, 2017, the related process fee payables resulting from the aforementioned transactions have not yet been paid.

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## HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

### Notes to Consolidated Financial Statements (Continued)

#### December 31, 2015, 2016 and 2017

#### Note 22. Commitments and Contingencies

As of December 31, 2016 and 2017 the Company had entered into several contracts for the acquisition of building, equipment and computer software. Total contract prices amounted to \$5,153 thousand and \$60,573 thousand, respectively. As of December 31, 2016 and 2017, the remaining commitments were \$3,760 thousand and \$40,814 thousand, respectively.

The Company leases certain offices and buildings pursuant to operating lease arrangements with third parties. The lease arrangement will expire gradually from 2018 to 2024. As of December 31, 2016 and 2017, deposits paid amounted to \$1,091 thousand and \$1,230 thousand, respectively, and were recorded as refundable deposit in the consolidated balance sheets.

As of December 31, 2017, future minimum lease payments under noncancelable operating leases are as follows:

Duration	Amount (in thousands)
January 1, 2018~December 31, 2018	\$ 1,122
January 1, 2019~December 31, 2019	753
January 1, 2020~December 31, 2020	512
January 1, 2021~December 31, 2021	318
January 1, 2022~December 31, 2022	298
January 1, 2023~December 31, 2024	238
	\$ 3,241

Rental expense for operating leases with third parties amounted to \$2,082 thousand, \$2,148 thousand and \$2,189 thousand in 2015, 2016 and 2017, respectively.

- The Company entered into several sales agent agreements. Based on these agreements, the Company shall
- (c) pay commissions at the rates ranging from 0.5% to 2% of the sales to customers in the specific territory or referred by agents as stipulated in these agreements.

The Company from time to time is subject to claims regarding the proprietary use of certain technologies.

- (d) 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.

- 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
- (e) 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.

## HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

### Notes to Consolidated Financial Statements (Continued)

#### December 31, 2015, 2016 and 2017

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. Due to the current market is facing a capacity shortage of wafer fabrication, the Company has (f) increased its placing of purchase orders to meet the sufficient capacity supply from foundries for year 2018. Contractual obligations resulting from above arrangements approximate \$89,179 thousand and \$193,446 thousand as of December 31, 2016 and 2017, respectively.

The Company is involved in various claims arising in the ordinary course of business. In the opinion of (g) 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, 2017, management is not aware of any pending litigation against the Company.

#### Note 23. Redeemable Noncontrolling Interest

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 their 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 and redemption feature and also issued the noncontrolling shareholder 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 convertible preferred shares of Himax Display, Inc. are presented as redeemable noncontrolling interest on the Company's consolidated balance sheet.

The redeemable noncontrolling interest was originally recognized on the balance sheet at fair value. Each reporting period, the redeemable noncontrolling interest is presented at the greater of its carrying amount or redemption value. Changes in value from period to period are charged to Himax stockholders on our consolidated balance sheets. As of December 31, 2016 and 2017, the aggregate value of the redeemable noncontrolling interest was \$3,656 thousand. Net loss attributable to the redeemable noncontrolling interest was \$617 thousand, \$143 thousand and \$313 thousand for the years ended December 31, 2015, 2016 and 2017, respectively.

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017****Note 24. Segment, Product and Geographic Information**

	<b>Year Ended December 31, 2015</b>		
	<b>Driver IC</b>	<b>Non-driver products</b>	<b>Consolidated Total</b>
	<b>(in thousands)</b>		
Segment revenues	\$ 560,399	131,390	691,789
Segment operating income (loss)	\$ 59,506	(28,834 )	30,672
Non operating income, net			2,195
Consolidated earnings before income taxes			\$ 32,867
Significant noncash items:			
Share Based Compensation	\$ 1,206	612	1,818
Depreciation and amortization	\$ 3,591	10,573	14,164

	<b>Year Ended December 31, 2016</b>		
	<b>Driver IC</b>	<b>Non-driver products</b>	<b>Consolidated Total</b>
	<b>(in thousands)</b>		
Segment revenues	\$ 641,865	161,052	802,917
Segment operating income (loss)	\$ 92,010	(32,775 )	59,235
Non operating income, net			183
Consolidated earnings before income taxes			\$ 59,418
Significant noncash items:			
Share Based Compensation	\$ 542	644	1,186
Depreciation and amortization	\$ 3,685	10,071	13,756

**Year Ended December 31, 2017**  
**Driver IC   Non-driver   Consolidated**

	<b>products</b>		<b>Total</b>
	<b>(in thousands)</b>		
Segment revenues	\$ 529,847	155,320	685,167
Segment operating income (loss)	\$ 43,021	(34,871 )	8,150
Non operating income, net			22,188
Consolidated earnings before income taxes			\$ 30,338
Significant noncash items:			
Share Based Compensation	\$ 365	733	1,098
Depreciation and amortization	\$ 4,940	11,740	16,680

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

Revenues from the Company's major product lines are summarized as follow:

	<b>Year Ended December 31,</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	<b>(in thousands)</b>		
Display drivers for large-size applications	\$ 224,423	272,906	224,798
Display drivers for mobile handsets applications	170,705	191,845	113,591
Display drivers for consumer electronics applications	165,271	177,114	191,458
Others	131,390	161,052	155,320
	<b>\$691,789</b>	<b>802,917</b>	<b>685,167</b>

The following tables summarize information pertaining to the Company's revenues from customers in different geographic region (based on customer's headquarter location):

	<b>Year Ended December 31,</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	<b>(in thousands)</b>		
China	\$ 372,538	507,470	421,208
Taiwan	254,763	199,985	176,951
Other Asia Pacific (Philippines, Korea and Japan)	53,053	54,159	67,779
Europe and America	11,435	41,303	19,229
	<b>\$691,789</b>	<b>802,917</b>	<b>685,167</b>

The carrying values of the Company's tangible long-lived assets are located in the following countries:

**December 31,**  
**2016      2017**  
**(in thousands)**

Taiwan	\$47,144	85,808
China	767	663
U.S.	61	33
Japan	21	19
Korea	179	150
	\$48,172	86,673

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017**

Revenues from significant customers, those representing 10% or more of total revenue for the respective periods, are summarized as follows:

	<b>Year Ended December 31,</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	<b>(in thousands)</b>		
Driver IC segment:			
Customer A and its affiliates	\$ 116,456	152,142	147,961
Customer B and its affiliates	126,953	113,300	102,493
	\$ 243,409	265,442	250,454
Non-driver products segment:			
Customer A and its affiliates	\$ 22,345	27,873	28,767
Customer B and its affiliates	19,256	8,672	3,887
	\$ 41,601	36,545	32,654

Accounts receivable from significant customers, those representing 10% or more of total accounts receivable for the respective periods, is summarized as follows:

	<b>December 31,</b>	
	<b>2016</b>	<b>2017</b>
	<b>(in thousands)</b>	
Customer A and its affiliates	\$ 55,681	61,100
Customer B and its affiliates	36,849	29,008
	\$ 92,530	90,108

As of December 31, 2016 and 2017, allowance for sales returns and discounts for those accounts receivable was \$745 thousand and \$578 thousand, respectively.

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## HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES

### Notes to Consolidated Financial Statements (Continued)

December 31, 2015, 2016 and 2017

#### Note 25. 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 Balance Sheets

	<b>December 31,</b>	
	<b>2016</b>	<b>2017</b>
	<b>(in thousands)</b>	
Cash	\$759	1,362
Investments in marketable securities available-for-sale	4,399	4,881
Other receivable from related party	7,150	2,751
Other current assets	976	498
Investments in subsidiaries and affiliates	727,903	753,315
Total assets	\$741,187	762,807
Current liabilities	\$284	235
Short-term debt	119,000	147,000
Debt borrowing from a subsidiary	154,170	158,924
Total equity	467,733	456,648
Total liabilities and equity	\$741,187	762,807

Himax Technologies, Inc. had no guarantees as of December 31, 2016 and 2017.

**Condensed Statements of Income**

	Year Ended December 31,		
	2015	2016	2017
	(in thousands)		
Revenues	\$-	-	-
Costs and expenses	460	330	236
Operating loss	(460 )	(330 )	(236 )
Equity in earnings from subsidiaries and affiliates	20,820	55,191	30,355
Gain on sale of securities	1,682	-	-
Other non-operating income (loss)	3,153	(3,949 )	(2,152 )
Earnings before income taxes	25,195	50,912	27,967
Income tax expense	-	-	-
Net income	\$25,195	50,912	27,967

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**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017****Condensed Statements of Comprehensive Income**

	<b>Year Ended December 31,</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	<b>(in thousands)</b>		
Net income	\$ 25,195	50,912	27,967
Other comprehensive income (loss):			
Unrealized gains (losses) on securities, not subject to income tax:	(259 )	(115 )	313
Unrealized holding gains (losses) on available-for-sale marketable securities arising during the period	(63 )	(118)	466
Reclassification adjustment for realized losses (gains) included in net income	(196)	3	(153)
Foreign currency translation adjustments, net of income tax of nil	(573 )	(479 )	862
Net unrecognized actuarial gain (loss), net of income tax of \$(168), \$6 and \$(25) in 2015, 2016 and 2017, respectively	(731 )	6	(138 )
Comprehensive income	\$ 23,632	50,324	29,004

**HIMAX TECHNOLOGIES, INC. AND SUBSIDIARIES****Notes to Consolidated Financial Statements (Continued)****December 31, 2015, 2016 and 2017****Condensed Statements of Cash Flows**

	<b>Year Ended December 31,</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	<b>(in thousands)</b>		
Cash flows from operating activities:			
Net income	\$25,195	50,912	27,967
Adjustments to reconcile net income to net cash provided by (used in) operating activities:			
Equity in earnings from subsidiaries and affiliates	(20,820 )	(55,191 )	(30,355 )
Gain on disposals of investment non-marketable equity securities, net	(1,682 )	-	-
Changes in:			
Other current assets	221	491	478
Other current liabilities	157	(100 )	(49 )
Net cash provided by (used in) operating activities	3,071	(3,888 )	(1,959 )
Cash flows from investing activities:			
Purchases of available-for-sale marketable securities	(4,625 )	(173 )	(158 )
Proceeds from disposals of investment in non-marketable equity securities	1,682	-	-
Purchases of equity method investment	(3,708 )	-	-
Proceeds from disposals of equity method investment	-	64,513	4,825
Proceeds from capital reduction of investment	-	431	1,150
Cash received from (paid for) loan made to related party	-	(7,150 )	4,400
Net cash provided by (used in) investing activities	(6,651 )	57,621	10,217
Cash flows from financing activities:			
Payments of cash dividends	(51,364 )	(22,348 )	(41,281 )
Proceeds from short-term debt	351,000	192,000	151,000
Repayment of short-term debt	(301,000)	(234,000)	(123,000)
Proceeds from issue of RSUs from subsidiaries	5,311	1,081	872
Proceeds from debt from a subsidiary	375,572	367,667	201,849
Repayment of debt from a subsidiary	(374,775)	(358,910)	(197,095)
Net cash provided by (used in) financing activities	4,744	(54,510 )	(7,655 )
Net increase (decrease) in cash	1,164	(777 )	603
Cash at beginning of year	372	1,536	759



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Cash at end of year	\$ 1,536	759	1,362
Supplemental disclosures of cash flow information:			
Cash paid during the year for:			
Interest paid during the year	\$453	563	547
Income taxes paid during the year	\$-	-	-

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