ADVANCED SEMICONDUCTOR ENGINEERING INC
Form 20-F
April 17, 2014

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

FORM 20-F

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

OR

xANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2013

OR

oTRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

oSHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number: 001-16125

(Exact name of Registrant as specified in its charter)

Advanced Semiconductor Engineering, Inc.
(Translation of Registrant's Name into English)

REPUBLIC OF CHINA
(Jurisdiction of Incorporation or Organization)

26 Chin Third Road
Nantze Export Processing Zone
Nantze, Kaohsiung, Taiwan

Republic of China
(Address of Principal Executive Offices)

Joseph Tung
Room 1901, No. 333, Section 1 Keelung Rd.
Taipei, Taiwan, 110
Republic of China

Tel: 886-2-8780-5489
Fax: 882-2-2757-6121
Email: ir@aseglobal.com
(Name, Telephone, Email 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
Common Shares, par value NT$10.00 each	The New York Stock Exchange*

*Traded in the form of American Depositary Receipts evidencing American Depositary Shares, each representing five Common Shares
(Title of Class)

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
(Title of Class)

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report:

7,787,159,546 Common Shares, par value NT$10 each**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes x No o

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 o No x

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 x No o

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 o No x

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

Large accelerated filer x Accelerated filer o Non-accelerated filer o

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

U.S. GAAP o | International Financial Reporting Standards as issued by the International Accounting Standards Board x | Other o

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 o Item 18 o

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 o No x

** As a result of the exercise of employee stock options subsequent to December 31, 2013, as of March 31, 2014, we had 7,810,454,946 shares outstanding.

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USE OF CERTAIN TERMS

All references herein to (i) the "Company," "ASE Group," "ASE Inc.," "we," "us," or "our" are to Advanced Semiconductor Engineering, Inc. and, unless the context requires otherwise, its subsidiaries, (ii) "ASE Test Taiwan" are to ASE Test, Inc., a company incorporated under the laws of the ROC, (iii) "ASE Test Malaysia" are to ASE Electronics (M) Sdn. Bhd., a company incorporated under the laws of Malaysia, (iv) "ISE Labs" are to ISE Labs, Inc., a corporation incorporated under the laws of the State of California, (v) "ASE Korea" are to ASE (Korea) Inc., a company incorporated under the laws of the Republic of Korea, (vi) "ASE Japan" are to ASE Japan Co. Ltd., a company incorporated under the laws of Japan, (vii) "ASE Shanghai" are to ASE (Shanghai) Inc., a company incorporated under the laws of the PRC, (viii) "ASE Electronics" are to ASE Electronics Inc., a company incorporated under the laws of the ROC, (ix) "PowerASE" are to PowerASE Technology, Inc., a company incorporated under the laws of the ROC which was merged into ASE Inc. in May 2012, (x) "ASESH AT" are to ASE Assembly & Test (Shanghai) Limited, formerly known as Global Advanced Packaging Technology Limited, or GAPT, a company incorporated under the laws of the PRC, (xi) "ASEN" are to Suzhou ASEN Semiconductors Co., Ltd., a company incorporated under the laws of the PRC, (xii) "ASEWH" are to ASE (Weihai), Inc., a company incorporated under the laws of the PRC, (xiii) "ASEKS" are to ASE (KunShan) Inc., a company incorporated under the laws of the PRC, (xiv) "Universal Scientific" or "USI" are to Universal Scientific Industrial Co., Ltd., a company incorporated under the laws of the ROC, and, unless the context requires otherwise, "Universal Scientific Group" are to Universal Scientific and its subsidiaries, (xv) "Universal Scientific Shanghai" are to Universal Scientific Industrial (Shanghai) Co., Ltd., a company incorporated under the laws of the PRC, (xvi) "Hung Ching" are to Hung Ching Development & Construction Co. Ltd., a company incorporated under the laws of the ROC, (xvii) "EEMS Test Singapore" are to EEMS Test Singapore Pte. Ltd., a company incorporated under the laws of Singapore, which changed its name to ASE Singapore II Pte. Ltd. and was subsequently merged into ASE Singapore Pte. Ltd. on January 1, 2011, (xviii) "ASE Material" are to ASE Material Inc., a company previously incorporated under the laws of the ROC that merged into ASE Inc. on August 1, 2004, (xix) "ASE Chung Li" are to ASE (Chung Li) Inc., a company previously incorporated under the laws of the ROC that merged into ASE Inc. on August 1, 2004, (xx) "Yang Ting" are to Yang Ting Tech Co., Ltd., a company incorporated under the laws of the ROC, which was merged into ASE Inc. in August 2013, (xxi) "ASE Test" are to ASE Test Limited, a company incorporated under the laws of Singapore, (xxii) "Wuxi Tongzhi" are to Wuxi Tongzhi Microelectronics Co., Ltd., a company incorporated under the laws of the PRC, (xxiii) "UGJQ" are to Universal Global Technology (Shanghai) Co., Ltd., a company incorporated under the laws of the PRC, (xxiv) the "SEC" are to the Securities and Exchange Commission of the U.S., (xxv) the "Securities Act" are to the U.S. Securities Act of 1933, as amended, (xxvi) the "Exchange Act" are to the U.S. Securities Exchange Act of 1934, as amended, (xxvii) "IFRS" are to International Financial Reporting Standards as issued by the International Accounting Standards Board, (xxviii) "Taiwan-IFRS" are to the Guidelines Governing the Preparation of Financial Reports by Securities Issuers, the International Financial Reporting Standards, International Accounting Standards and interpretations as well as related guidance translated by Accounting Research and Development Foundation and endorsed by the Financial Supervisory Commission of the Republic of China, (xxix) "ROC GAAP" are to generally accepted accounting principles in the ROC, and (xxx) "FSC" are to the Financial Supervisory Commission of the Republic of China.

All references to the "Republic of China," the "ROC" and "Taiwan" are to the Republic of China, including Taiwan and certain other possessions. All references to "Korea" or "South Korea" are to the Republic of Korea. All references to the "PRC" are to the People's Republic of China and exclude Taiwan, Macau and Hong Kong.

We publish our financial statements in New Taiwan dollars, the lawful currency of the ROC. In this annual report, references to "United States dollars," "U.S. dollars" and "US$" are to the currency of the United States; references to "New Taiwan dollars," "NT dollars" and "NT$" are to the currency of the ROC; references to "RMB" are to the currency of the PRC; references to "JP¥" are to the currency of Japan; references to "MYR" are to the currency of Malaysia; references to "SGD" are to the currency of Republic of Singapore; references to "KRW" are to the currency of Republic of Korea; and references to "EUR" are to the currency of the European Union. Unless otherwise noted, all translations from NT dollars

to U.S. dollars were made at the exchange rate as set forth in the H.10 weekly statistical release of the Federal Reserve System of the United States (the "Federal Reserve Board") as of December 31, 2013, which was NT$29.83=US$1.00, and all translations from RMB to U.S. dollars were made at the exchange rate as set forth in the H.10 weekly statistical release of the Federal Reserve Board as of December 31, 2013, which was RMB6.0537=US$1.00. All amounts translated into U.S. dollars in this annual report are provided solely for your convenience and no representation is made that the NT dollar/RMB or U.S. dollar amounts referred

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to herein could have been or could be converted into U.S. dollars or NT dollars/RMB, as the case may be, at any particular rate or at all. On April 11, 2014, the exchange rate between NT dollars and U.S. dollars as set forth in the H.10 weekly statistical release by the Federal Reserve Board was NT$30.08=US$1.00. On April 11, 2014, the exchange rate between RMB and U.S. dollars as set forth in the H.10 weekly statistical release by the Federal Reserve Board was RMB6.2111=US$1.00.

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 and Section 21E of 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,” “estimate,” “expect,” “intend,” “plan” and similar expressions, as they relate to us, are intended to identify these forward-looking statements in this annual report. 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 risks associated with cyclicality and market conditions in the semiconductor or electronic industry; changes in our regulatory environment, including our ability to comply with new or stricter environmental regulations and to resolve environmental liabilities; demand for the outsourced semiconductor packaging, testing and electronic manufacturing services we offer and for such outsourced services generally; the highly competitive semiconductor or manufacturing industry we are involved in; our ability to introduce new technologies in order to remain competitive; international business activities; our business strategy; our future expansion plans and capital expenditures; the strained relationship between the ROC and the PRC; general economic and political conditions; the recent global economic crisis; possible disruptions in commercial activities caused by natural or human-induced disasters; fluctuations in foreign currency exchange rates; and other factors. For a discussion of these risks and other factors, see “Item 3. Key Information—Risk Factors.”

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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

SELECTED FINANCIAL DATA

The selected consolidated statements of comprehensive income data and cash flow data for the years ended December 31, 2012 and 2013, and the selected consolidated balance sheet data as of December 31, 2012 and 2013, set forth below are derived from our audited consolidated financial statements included in this annual report and should be read in conjunction with, and are qualified in their entirety by reference to, these consolidated financial statements, including the notes thereto. Our consolidated financial statements have been prepared and presented in accordance with IFRS. Until and including our financial statements included in our annual reports on Form 20-F for the year ended December 31, 2012, we prepared our financial statements in accordance with ROC GAAP, with reconciliations to U.S. GAAP.

Beginning on January 1, 2013, we have adopted Taiwan-IFRS for reporting our annual and interim consolidated financial statements in the ROC in accordance with the requirements of the Financial Supervisory Commission of the ROC, or the FSC. Meanwhile, we have adopted and will continue to adopt IFRS, which differs from Taiwan-IFRS, for certain filings with the SEC, including this annual report and future annual reports on Form 20-F. Following our adoption of IFRS for SEC filing purposes, pursuant to the rule amendments adopted by the SEC which became effective on March 4, 2008, we will no longer be required to reconcile our consolidated financial statements with U.S. GAAP. Furthermore, pursuant to the transitional relief granted by the SEC in respect of the first-time application of IFRS, historical financial data for the years ended 2009, 2010 and 2011 has been omitted, and no audited consolidated financial statements and financial information prepared in accordance with IFRS for the year ended December 31, 2011 have been included in this annual report. Historical financial results as of and for the year ended December 31, 2012 have also been adjusted and presented in accordance with IFRS which differs from the results included in our annual report on Form 20-F for the year ended December 31, 2012. For more information, see “Item 3. Key Information—Risk Factors—Risks Relating to Our Business—Our adoption of new financial reporting standards, effective January 1, 2013, may have material impact on our financial statements thereafter,” Item 5. Operating and Financial Review and Prospects—Operating Results and Trend Information—Adoption of New Financial Reporting Standards” and note 41 to our consolidated financial statements included elsewhere in this annual report.

	As of and for the Year Ended December 31,		
	2012	2013	
	NT$	NT$	US$
	(in millions, except earnings per share and per ADS data)		
Statement of Comprehensive Income Data:			
Operating revenues	193,972.4	219,862.4	7,370.5
Operating costs	(157,342.7)	(177,040.4)	(5,935.0)

Gross profit	36,629.7	42,822.0	1,435.5
Total operating expenses	(18,922.6)	(20,760.4)	(696.0)
Other income and expenses	83.2	(1,348.2)	(45.2)

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	As of and for the Year Ended December 31,		
	2012	2013	
	NT$	NT$	US$
	(in millions, except earnings per share and per ADS data)		
Profit from operations	17,790.3	20,713.4	694.3
Non-operating expense, net	(1,181.6)	(1,343.6)	(45.0)
Profit before income tax	16,608.7	19,369.8	649.3
Income tax expense	(2,960.4)	(3,499.6)	(117.3)
Profit for the year	13,648.3	15,870.2	532.0
Attributable to			
Owners of the Company	13,191.6	15,404.5	516.4
Non-Controlling interest	456.7	465.7	15.6
	13,648.3	15,870.2	532.0
Other comprehensive income (loss), net of income tax	(3,830.7)	3,233.3	108.4
Total comprehensive income for the year	9,817.6	19,103.5	640.4
Attributable to			
Owners of the Company	9,420.4	18,509.6	620.5
Non-Controlling interest	397.2	593.9	19.9
	9,817.6	19,103.5	640.4
Earnings per common share(1):			
Basic	1.77	2.05	0.07
Diluted	1.73	1.99	0.07
Dividends per common share(2)	2.05	1.05	0.04
Earnings per equivalent ADS(1):			
Basic	8.86	10.26	0.34
Diluted	8.65	9.96	0.33
Number of common shares(3):			
Basic	7,445.5	7,508.5	7,508.5
Diluted	7,568.2	7,747.6	7,747.6
Number of equivalent ADSs			
Basic	1,489.1	1,501.7	1,501.7
Diluted	1,513.6	1,549.5	1,549.5

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	As of and for the Year Ended December 31,		
	2012	2013	
	NT$	NT$	US$
	(in millions, except earnings per share and per ADS data)		
Balance Sheet Data:			
Current assets	97,495.6	132,176.5	4,431.0
Investments- non-current(4)	2,267.8	2,345.5	78.6
Property, plant and equipment, net	127,197.8	131,497.3	4,408.2
Intangible assets	12,361.3	11,953.6	400.7
Long-term prepayment for lease	4,164.1	4,072.3	136.5
Others(5)	4,236.0	4,676.9	156.9
Total assets	247,722.6	286,722.1	9,611.9
Short-term borrowings(6)	40,098.7	50,634.7	1,697.4
Long-term liabilities(7)	44,591.7	50,166.5	1,681.8
Other liabilities(8)	53,211.8	60,176.9	2,017.3
Total liabilities	137,902.2	160,978.1	5,396.5
Share capital	76,047.7	78,180.3	2,620.9
Non-controlling interests	3,505.7	4,128.4	138.4
Equity attributable to owners of the Company	106,314.7	121,615.6	4,077.0
Cash Flow Data:			
Capital expenditures	(39,029.5)	(29,142.7)	(977.0)
Depreciation and amortization	23,435.9	25,470.9	853.9
Net cash inflow from operating activities	33,038.0	41,296.0	1,384.4
Net cash outflow from investing activities	(43,817.8)	(29,925.8)	(1,003.2)
Net cash inflow from financing activities	8,455.8	12,794.9	428.9
Segment Data:			
Operating revenues:			
Packaging	104,298.3	112,603.9	3,774.9
Testing	22,657.0	24,732.2	829.1
Electronic manufacturing services	62,747.7	78,530.6	2,632.6
Others	4,269.4	3,995.7	133.9
Gross profit:			
Packaging	19,812.5	23,673.7	793.6
Testing	7,601.0	9,079.4	304.4
Electronic manufacturing services	7,241.3	8,054.3	270.0

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	As of and for the Year Ended December 31,		
	2012	2013	
	NT$	NT$	US$
	(in millions, except earnings per share and per ADS data)		
Others	1,974.9	2,014.6	67.5

(1) The denominators for diluted earnings per common share and diluted earnings per equivalent ADS are calculated to account for the potential diluted factors, such as the exercise of options and conversion of our convertible bonds into our common shares and American depositary shares, or ADSs.

(2) Dividends per common share issued as a cash dividend, a stock dividend and distribution from capital surplus.

(3) Represents the weighted average number of shares after retroactive adjustments to give effect to stock dividends. Common shares held by consolidated subsidiaries are classified as "treasury stock," and are deducted from the number of common shares outstanding.

(4) Including available-for-sale financial assets — non-current and investments accounted for using the equity method.

(5) Including deferred tax assets, other financial assets — non-current and other non-current assets.

(6) Includes current portions of bonds payable, long-term borrowings and capital lease obligations.

(7) Excludes current portions of bonds payable, long-term borrowings and capital lease obligations.

(8) Includes (x) current liabilities other than short-term borrowings and (y) other non-current liabilities.

Exchange Rates

Fluctuations in the exchange rate between NT dollars and U.S. dollars will affect the U.S. dollar equivalent of the NT dollar price of our common shares on the Taiwan Stock Exchange and, as a result, will likely affect the market price of the ADSs. Fluctuations will also affect the U.S. dollar conversion by the depositary under our ADS deposit agreement referred to below of cash dividends paid in NT dollars on, and the NT dollar proceeds received by the depositary from any sale of, common shares represented by ADSs, in each case, according to the terms of the deposit agreement dated September 29, 2000 and as amended and supplemented from time to time among us, Citibank N.A., as depositary, and the holders and beneficial owners from time to time of the ADSs, which we refer to as the deposit agreement.

The following table sets forth, for the periods indicated, information concerning the number of NT dollars for which one U.S. dollar could be exchanged. The exchange rates reflect the exchange rates set forth in the H.10 statistical release of the Federal Reserve Board.

	Exchange Rate			
	Average(1)	High	Low	Period-End
2009	32.96	35.21	31.95	31.95
2010	31.40	32.43	29.14	29.14

2011	29.42	30.67	28.50	30.27
2012	29.47	30.28	28.96	29.05
2013	29.73	30.20	28.93	29.83
October	29.38	29.49	29.32	29.42
November	29.52	29.65	29.37	29.59
December	29.72	30.03	29.53	29.83

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	Exchange Rate			
	Average(1)	High	Low	Period-End
2014				
January	30.14	30.31	29.90	30.31
February	30.31	30.37	30.25	30.29
March	30.40	30.65	30.24	30.45
April (through April 11, 2014)	30.17	30.29	29.99	30.08

(1) Annual averages were calculated by using the average of the exchange rates on the last day of each month during the relevant year. Monthly averages were calculated by using the average of the daily rates during the relevant month.

On April 11, 2014, the exchange rate as set forth in the H.10 weekly statistical release by the Federal Reserve Board was NT$30.08=US$1.00.

CAPITALIZATION AND INDEBTEDNESS

Not applicable.

REASON FOR THE OFFER AND USE OF PROCEEDS

Not applicable.

RISK FACTORS

Risks Relating to Our Business

Since we are dependent on the highly cyclical semiconductor and electronic industries and conditions in the markets for the end-use applications of our products, our revenues and net income may fluctuate significantly.

Our business is affected by market conditions in the highly cyclical semiconductor and electronic industries. Most of our customers operate in this industry, and variations in order levels from our customers and service fee rates may result in volatility in our revenues and net income. From time to time, the semiconductor and electronic industries have experienced significant, and sometimes prolonged, downturns. As our business is, and will continue to be, dependent on the requirements for independent packaging, testing and electronic manufacturing services, any future downturn in the industry would reduce demand for our services. For example, in the fourth quarter of 2008, the global economic crisis resulted in a significant deterioration in demand for our customers' products, which in turn affected demand for our services and adversely affected our operating results. Although demand has recovered, we expect there to be continued downward pressure on our average selling prices and continued volatility with respect to our sales volumes in the future. If we cannot reduce our costs or adjust our product mix to sufficiently offset any decline in sales volumes, our profitability will suffer, and we may incur losses.

Market conditions in the semiconductor and electronic industries depend to a large degree on conditions in the markets for the end-use applications of various products, such as communications, computing and consumer electronics products. Any deterioration of conditions in the markets for the end-use applications would reduce demand for our services, and would likely have a material adverse effect on our financial condition and results of operations. In 2013, approximately 54.6%, 11.0% and 34.4% of our operating revenues from packaging and testing were attributed to the packaging and testing of semiconductors used in communications, computing and consumer electronics/industrial/automotive applications, respectively. In the same year, approximately 45.4%, 21.7%, 11.7% ,

12.8% and 7.4% of our operating revenues from electronic manufacturing services were attributed to the communications, computing, consumer electronics applications, industrial and automotive applications, respectively. Each of the markets for end-use applications is subject to intense competition and significant shifts in demand, which could put pricing pressure on our services and adversely affect our revenues and net income.

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A reversal or slowdown in the outsourcing trend for semiconductor packaging and testing services and electronic manufacturing services could adversely affect our growth prospects and profitability.

Semiconductor manufacturers that have their own in-house packaging and testing capabilities, known as integrated device manufacturers and original equipment manufacturers, have increasingly outsourced stages of the production process, including packaging, testing, electronic manufacturing and assembly, to independent companies in order to reduce costs, eliminate product complexity and meet fast-to-market requirements. In addition, the availability of advanced independent semiconductor manufacturing services has also enabled the growth of so-called “fabless” semiconductor companies that focus exclusively on design and marketing and outsource their manufacturing, packaging and testing requirements to independent companies. We cannot assure you that these manufacturers and companies will continue to outsource their packaging, testing and manufacturing requirements to third parties like us. Furthermore, during an economic downturn, these integrated device manufacturers typically rely more on their own in-house packaging and testing capabilities, therefore decreasing their need to outsource. A reversal of, or a slowdown in, this outsourcing trend could result in reduced demand for our services and adversely affect our growth prospects and profitability.

Any global economic downturn could adversely affect the demand for our products and services, and a protracted global economic crisis would have a material adverse effect on us.

The global financial markets experienced significant disruptions in 2008 and the United States, Europe and other economies went into recession. The recovery from the lows of 2008 and 2009 was uneven and it is facing new challenges, including a European sovereign debt crisis that began in 2011 and continuing high unemployment rates in much of the world. It is unclear what the long-term impact of the European sovereign debt crisis will be and uncertainty remains 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 higher oil prices and significant market volatility. Any economic downturn or crisis may cause our customers to do the following:

- cancel or reduce planned expenditures for our products and services;
- seek to lower their costs by renegotiating their contracts with us;
- consolidate the number of suppliers they use which may result in our loss of customers; and
- switch to lower-priced products or services provided by our competitors.

Any uncertainty or significant volatility in global economic conditions may also make it difficult for our customers to accurately forecast and plan future business activities and may have a material adverse effect on us.

If we are unable to compete favorably in the highly competitive markets of semiconductor packaging and testing and electronic manufacturing services, our revenues and net income may decrease.

The markets of semiconductor packaging and testing and electronic manufacturing services are very competitive. We face competition from a number of sources, including other independent semiconductor packaging and testing companies, especially those that offer turnkey packaging and testing services, and other electronic manufacturing services providers with large-scale manufacturing capabilities who can quickly react to market changes. We believe that the principal competitive factors in our industry are:

- technological expertise;

- price;
- the ability to provide total solutions to our customers, including integrated design, manufacturing, packaging and testing and electronic manufacturing services;
- range of package types and testing platforms available;
- the ability to work closely with our customers at the product development stage;

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- responsiveness and flexibility;
- fast-to-market product development;
- capacity;
- diversity in facility locations; and
- production yield.

We face increasing competition, as most of our customers obtain services from more than one source. In addition, some of our competitors may have access to more advanced technologies and greater financial and other resources than we do. Any erosion in the prices for our services and/or products could cause our revenues and net income to decrease and have a material adverse effect on our financial condition and results of operations.

Our profitability depends on our ability to respond to rapid technological changes in the semiconductor industry.

The semiconductor industry is characterized by rapid increases in the diversity and complexity of semiconductors. As a result, we expect that we will need to constantly offer more sophisticated packaging and testing technologies and processes in order to respond to competitive industry conditions and customer requirements. We have successfully combined our packaging, testing and materials technologies with the expertise of Universal Scientific at the systems level to develop our system-in-package ("SiP") business. However, the SiP business is still in the early stage of development. Early product development by itself does not guarantee the success of a new product. Success also depends on other factors such as product acceptance by the market. New products are developed in anticipation of future demand. We cannot assure you that the launch of any new product will be successful, or that we will be able to produce sufficient quantities of these products to meet market demand. If we fail to develop, or obtain access to, advances in packaging or testing technologies or processes, we may become less competitive and less profitable. In addition, advances in technology typically lead to declining average selling prices for semiconductors packaged or tested with older technologies or processes. As a result, if we cannot reduce the costs associated with our services, the profitability of a given service and our overall profitability may decrease over time.

Our operating results are subject to significant fluctuations, which could adversely affect the market value of your investment.

Our operating results have varied significantly from period to period and may continue to vary in the future. Downward fluctuations in our operating results may result in decreases in the market price of our common shares and the ADSs. Among the more important factors affecting our quarterly and annual operating results are the following:

- changes in general economic and business conditions, particularly the cyclical nature of the semiconductor and electronic industries and the markets served by our customers;
- our ability to quickly adjust to unanticipated declines or shortfalls in demand and market prices;
- changes in prices for our products or services;
- volume of orders relative to our packaging, testing and manufacturing capacity;
- changes in costs and availability of raw materials, equipment and labor;

- our ability to obtain or develop substitute raw materials with lower cost;
- our ability to successfully develop or market new products or services;
- timing of capital expenditures in anticipation of future orders;

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- our ability to acquire or design and produce advanced and cost-competitive interconnect materials, and provide integrated solutions for electronic manufacturing services;
- fluctuations in the exchange rate between the NT dollar and foreign currencies, especially the U.S. dollar; and
- typhoons, earthquakes, drought, epidemics, tsunami and other natural disasters, as well as industrial and other incidents such as fires and power outages.

Due to the factors listed above, our future operating results or growth rates may be below the expectations of research analysts and investors. If so, the market price of our common shares and the ADSs, and thus the market value of your investment, may fall.

If we are not successful in maintaining our in-house interconnect materials capabilities, our margins and profitability may be adversely affected.

We expect that we will need to maintain our interconnect materials designs and production processes in order to respond to competitive industry conditions and customer requirements. In particular, our competitive position will depend on our ability to design and produce interconnect materials that are comparable to or better than those produced by independent suppliers and others. Many of these independent suppliers have dedicated greater resources than we have for the research and development and design and production of interconnect materials. In addition, we may not be able to acquire the technology and personnel that would enable us to maintain our in-house expertise and our design and production capabilities. For more information on our interconnect materials operations, see “Item 4. Information on the Company—Business Overview—Principal Products and Services—Packaging Services—Interconnect Materials.” If we are unable to maintain our in-house interconnect materials expertise to offer interconnect materials that meet the requirements of our customers, we may become less competitive and our margins and profitability may suffer as a result.

Due to our high percentage of fixed costs, we may be unable to maintain our gross margin at past levels if we are unable to achieve relatively high capacity utilization rates.

Our operations, in particular our testing operations, are characterized by relatively high fixed costs. We expect to continue to incur substantial depreciation and other expenses in connection with our acquisitions of equipment and facilities. Our profitability depends not only on the pricing levels for our services or products, but also on utilization rates for our machinery and equipment, commonly referred to as “capacity utilization rates.” In particular, increases or decreases in our capacity utilization rates can significantly affect gross margins since the unit cost generally decreases as fixed costs are allocated over a larger number of units. In periods of low demand, we experience relatively low capacity utilization rates in our operations, which leads to reduced margins. For example, in the fourth quarter of 2008, we experienced lower than anticipated utilization rates in our operations due to a significant decline in worldwide demand for our packaging and testing services, which resulted in reduced margins during that period. Although capacity utilization rates have recovered since 2009, we cannot assure you that we will be able to maintain or surpass our past gross margin levels if we cannot consistently achieve or maintain relatively high capacity utilization rates.

If we are unable to manage our expansion or investments effectively, our growth prospects may be limited and our future profitability and core business operations may be adversely affected.

We have significantly expanded our operations through both organic growth and acquisitions in recent years. For example, we acquired the controlling interest of Universal Scientific through a tender offer in February 2010 and EEMS Test Singapore in August 2010 (EEMS Test Singapore was subsequently merged into ASE Singapore Pte. Ltd.

on January 1, 2011). We also acquired Yang Ting in January 2012 and merged our subsidiary PowerASE Technology Inc. into ASE Inc. in May 2012 (Yang Ting was subsequently merged into ASE Inc. in August 2013). In addition we acquired Wuxi Tongzhi in May 2013 and Universal Scientific Group established UGJQ in September 2013. We expect that we will continue to expand our operations in the future. The purpose of our expansion is mainly to provide total solutions to existing customers or to attract new customers and broaden our product range for a variety of end-use applications. However, rapid expansion may place a strain on our managerial, technical, financial, operational and other resources. As a result of our expansion, we have implemented and will continue to implement additional operational and financial controls and hire and train additional personnel. Any failure to

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manage our growth effectively could lead to inefficiencies and redundancies and result in reduced growth prospects and profitability.

In addition, we have recently made investments in real estate development businesses mostly in China. The PRC property market is volatile and may experience undersupply or oversupply and property price fluctuations. The central and local governments frequently adjust monetary and other economic policies to prevent and curtail the overheating of the economy. Such policies may lead to changes in market conditions, including price instability and imbalance of supply and demand in respect of office, residential, retail, entertainment, cultural and intellectual properties. We may continue to make investments in this area in the future and our diversification in this industry may put pressure on our managerial, financial, operational and other resources. Our exposure to risks related to real estate development may also increase over time as a result of our expansion into such a business. There can be no assurance that our investments in such a business will yield the anticipated returns and that our expansion into such a business, including the resulting diversion of management's attention, will not adversely affect our core business operations.

The packaging and testing businesses are capital intensive. If we cannot obtain additional capital when we need it, our growth prospects and future profitability may be adversely affected.

The packaging and testing businesses are capital intensive. We will need capital to fund the expansion of our facilities as well as fund our research and development activities in order to remain competitive. We believe that our existing cash, marketable securities, expected cash flow from operations and existing credit lines under our loan facilities will be sufficient to meet our capital expenditures, working capital, cash obligations under our existing debt and lease arrangements, and other requirements for at least the next twelve months. However, future capacity expansions or market or other developments may cause us to require additional funds. Our ability to obtain external financing in the future is subject to a variety of uncertainties, including:

- our future financial condition, results of operations and cash flows;
- general market conditions for financing activities by semiconductor or electronics companies; and
- economic, political and other conditions in Taiwan and elsewhere.

If we are unable to obtain funding in a timely manner or on acceptable terms, our growth prospects and future profitability may decline.

Restrictive covenants and broad default provisions in our existing debt agreements may materially restrict our operations as well as adversely affect our liquidity, financial condition and results of operations.

We are a party to numerous loans and other agreements relating to the incurrence of debt, many of which include restrictive covenants and broad default provisions. In general, covenants in the agreements governing our existing debt, and debt we may incur in the future, may materially restrict our operations, including our ability to incur debt, pay dividends, make certain investments and payments, other than in connection with restructurings of consolidated entities, and encumber or dispose of assets. In addition, any global economic deterioration or ineffective expansion may cause us to incur significant net losses or force us to assume considerable liabilities. We cannot assure you that we will be able to remain in compliance with our financial covenants which, as a result, may lead to a default. This may thereby restrict our ability to access unutilized credit facilities or the global capital markets to meet our liquidity needs. Furthermore, a default under one agreement by us or one of our subsidiaries may also trigger cross-defaults under our other agreements. In the event of default, we may not be able to cure the default or obtain a waiver on a timely basis. An event of default under any agreement timely governing our existing or future debt, if not cured or waived, could have a material adverse effect on our liquidity, financial condition and results of operations.

We have on occasion failed to comply with certain financial covenants in some of our loan agreements. Such non-compliance may also have, through broadly worded cross-default provisions, resulted in default under some of the agreements governing our other existing debt. For example, we failed to comply with certain financial covenants in some of our loan agreements as a result of our acquisition of the controlling interest of Universal Scientific in February 2010, for which we have timely obtained waivers from our counterparties. If we are unable to timely remedy any of our non-compliance under such loan agreements or obtain applicable waivers or amendments, we

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would breach our financial covenants and our financial condition would be adversely affected. As of December 31, 2013, we were not in breach of any of the financial covenants under our existing loan agreements, although we cannot provide any assurance that we will not breach any of such financial covenants in the future.

We depend on select personnel and could be affected by the loss of their services.

We depend on the continued service of our executive officers and skilled technical personnel. Our business could suffer if we lose the services of any of these personnel and cannot adequately replace them. Although some of these management personnel have entered into employment agreements with us, they may nevertheless leave before the expiration of these agreements. We are not insured against the loss of the services of any of our personnel. In addition, these proceedings may divert these and other employees' attention from our business operations.

In addition, we may be required to increase substantially the number of these employees in connection with our expansion plans, and there is intense competition for their services in this industry. We may not be able to either retain our present personnel or attract additional qualified personnel as and when needed. In addition, we may need to increase employee compensation levels in order to attract and retain our existing officers and employees and the additional personnel that we expect to require. Furthermore, a portion of the workforce at our facilities in Taiwan are foreign workers employed by us under work permits which are subject to government regulations on renewal and other terms. Consequently, our business could also suffer if the Taiwan regulations relating to the employment of foreign workers were to become significantly more restrictive or if we are otherwise unable to attract or retain these workers at a reasonable cost.

If we are unable to obtain additional packaging and testing equipment or facilities in a timely manner and at a reasonable cost, our competitiveness and future profitability may be adversely affected.

The semiconductor packaging and testing businesses are capital intensive and require significant investment in expensive equipment manufactured by a limited number of suppliers. The market for semiconductor packaging and testing equipment is characterized, from time to time, by intense demand, limited supply and long delivery cycles. Our operations and expansion plans depend on our ability to obtain a significant amount of such equipment from a limited number of suppliers. From time to time we have also leased certain equipment. We have no binding supply agreements with any of our suppliers and acquire our packaging and testing equipment on a purchase order basis, which exposes us to changing market conditions and other substantial risks. For example, shortages of capital equipment could result in an increase in the price of equipment and longer delivery times. Semiconductor packaging and testing also require us to operate sizeable facilities. If we are unable to obtain equipment or facilities in a timely manner, we may be unable to fulfill our customers' orders, which could adversely affect our growth prospects as well as financial condition and results of operations. See "Item 4. Information on the Company—Business Overview—Equipment."

Fluctuations in exchange rates could result in foreign exchange losses.

Currently, the majority of our revenues are denominated in U.S. dollars, with a portion denominated in NT dollars and Japanese yen. Our operating costs and operating expenses, on the other hand, are incurred in several currencies, primarily NT dollars, U.S. dollars, RMB, Japanese yen, Korean won, as well as, to a lesser extent, Singapore dollars and Malaysian ringgit. In addition, a substantial portion of our capital expenditures, primarily for the purchase of packaging and testing equipment, has been, and is expected to continue to be, denominated in U.S. dollars, with the remainder in Japanese yen. Fluctuations in exchange rates, primarily among the U.S. dollar against the NT dollar, the Japanese yen and RMB, will affect our costs and operating margins. In addition, these fluctuations could result in exchange losses and increased costs in NT dollar and other local currency terms. Despite hedging and mitigating techniques implemented by us, fluctuations in exchange rates have affected, and may continue to affect, our financial

condition and results of operations. Although we recognized net foreign exchange gains of NT$965.4 million and net foreign exchange losses of NT$276.2 million (US$9.3 million) in 2012 and 2013, respectively, we cannot assure you that we will achieve or sustain foreign exchange gains in the future. See “Item 11. Quantitative and Qualitative Disclosures about Market Risk—Market Risk—Foreign Currency Exchange Rate Risk.”

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The loss of a large customer or disruption of our strategic alliance or other commercial arrangements with semiconductor foundries and providers of other complementary semiconductor manufacturing services may result in a decline in our revenues and profitability.

Although we have over 200 customers for our businesses, we have derived and expect to continue to derive a large portion of our revenues from a small group of customers during any particular period due in part to the concentration of market share in the semiconductor and electronic industries. Our five largest customers together accounted for approximately 31.2% and 37.2% of our operating revenues in 2012 and 2013, respectively. Although no single customer accounted for more than 10% of our operating revenues in 2012, one customer did account for more than 10% of our operating revenues in 2013. The demand for our services from a customer is directly dependent upon that customer's level of business activity, which could vary significantly from year to year. Our key customers typically operate in the cyclical semiconductor and electronic business and, in the past, have varied, and may vary in the future, order levels significantly from period to period. Some of these companies are relatively small, have limited operating histories and financial resources, and are highly exposed to the cyclicality of the industry. We cannot assure you that these customers or any other customers will continue to place orders with us in the future at the same levels as in past periods. The loss of one or more of our significant customers, or reduced orders by any one of them, and our inability to replace these customers or make up for such orders could adversely affect our revenues and profitability. In addition, we have in the past reduced, and may in the future be requested to reduce, our prices to limit the level of order cancellations. Any price reduction would likely reduce our margins and profitability.

Since 1997, we have maintained a strategic alliance with Taiwan Semiconductor Manufacturing Company Limited, or TSMC, one of the world's largest dedicated semiconductor foundries. TSMC designates us as their non-exclusive preferred provider of packaging and testing services for semiconductors manufactured by TSMC. Any strategic alliances, as well as our other commercial arrangements with providers of other complementary semiconductor manufacturing services, enable us to offer total semiconductor manufacturing solutions to our customers. Any strategic alliances and our other commercial arrangements may be terminated at any time. Any such termination, and our failure to enter into substantially similar strategic alliances or commercial arrangements, may adversely affect our competitiveness and our revenues and profitability.

Our revenues and profitability may decline if we are unable to obtain adequate supplies of raw materials in a timely manner and at a reasonable price.

Our operations, such as packaging operations, substrate operations and electronic manufacturing services, require that we obtain adequate supplies of raw materials on a timely basis. Shortages in the supply of raw materials have in the past resulted in occasional price increases and delivery delays. In addition, the operations of some of our suppliers are vulnerable to natural disasters, such as earthquakes and typhoons, the occurrences of which may deteriorate and prolong the shortage or increase the uncertainty of the supply of raw materials. For example, on March 11, 2011, a major earthquake occurred off the coast of Japan resulting in a large tsunami and radiation leak at the Fukushima nuclear power plant. We experienced a disruption to the supply of raw materials from Japan for about three to four weeks due to the fear of radiation contamination and the reduction or postponement in production by some of our Japanese suppliers. Although the purchase of supplies from Japan has been restored to the previous level, we cannot assure you that we will not suffer long-term from the impact of the earthquake and the tsunami. In addition, further earthquakes, aftershocks thereof or other disasters in Japan or affecting any regions in which we operate may cause a decline in our sales. Any of the above events or developments may have a material adverse effect on our business, results of operations and financial condition.

Raw materials such as advanced substrates are prone to supply shortages since such materials are produced by a limited number of suppliers such as Nanya Printed Circuit Board Corporation, Kinsus Interconnect Technology Corporation, Samsung Electro-Mechanics Co., Ltd and Unimicron Technology Corp. Our operations conducted

through our wholly-owned subsidiaries ASE Electronics and ASE Shanghai have improved our ability to obtain advanced substrates on a timely basis and at a reasonable cost. In 2013, our interconnect materials operations supplied approximately 29.1% of our consolidated substrate requirements by value. We do not expect that our internal interconnect materials operations will be able to meet all of our interconnect materials requirements. Consequently, we will remain dependent on market supply and demand for our raw materials. In addition, recent fluctuations in prices of precious metals, such as gold, have also affected the price at which we have been able to purchase the principal raw materials we use in our packaging processes. We cannot guarantee that we will not experience shortages in the near future or that we will be able to obtain adequate supplies of raw materials in a

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timely manner or at a reasonable price. Our revenues and net income could decline if we are unable to obtain adequate supplies of high quality raw materials in a timely manner or if there are significant increases in the costs of raw materials that we cannot pass on to our customers.

New regulations related to conflict minerals could adversely affect our business, financial condition and results of operations.

The Dodd-Frank Wall Street Reform and Consumer Protection Act contains provisions to improve transparency and accountability concerning the supply of certain minerals, 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. As a result, in August 2012 the SEC adopted annual disclosure and reporting requirements for those companies who use conflict minerals in their products. These new requirements will require companies that manufacture or contract to manufacture products for which conflict minerals are necessary to the functionality or production to begin scrutinizing the origin of conflict minerals in their products starting from January 1, 2013, and file a new form, Form SD, containing the conflict minerals disclosure by May 31 for the prior calendar year, beginning May 31, 2014. We believe certain conflict minerals identified under the conflict minerals rules issued by the SEC are used in our products, and therefore we are subject to the new disclosure requirements related to the conflict minerals. 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 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. Also, we may face adverse effects to our reputation if we determine that certain of our products contain minerals not determined to be conflict free or if we are unable to sufficiently verify the origins for all conflict minerals used in our products through the procedures we may implement.

System failures could harm our business, financial condition and results of operations.

Our systems are vulnerable to damage or interruption from earthquakes, terrorist attacks, floods, fires, power loss, telecommunications failures, computer viruses, computer denial of service attacks or other attempts to harm our system, and similar events. Some of our data centers are located in areas with a high risk of major earthquakes. Our data centers are also subject to break-ins, sabotage and intentional acts of vandalism, and to potential disruptions if the operators of these facilities have financial difficulties. Some of our systems are not fully redundant, and our disaster recovery planning cannot account for all eventualities. The occurrence of a natural disaster, a decision to close a facility we are using without adequate notice for financial reasons or other unanticipated problems at our data centers could result in lengthy interruptions in our service. Any damage to or failure of our systems could result in interruptions in our service. Interruptions in our service could materially and adversely affect our business, financial condition and results of operations.

Any environmental claims or failure to comply with any present or future environmental regulations, as well as any fire or other industrial accident, may require us to spend additional funds and may materially and adversely affect our financial condition and results of operations.

We are subject to various laws and regulations relating to the use, storage, discharge and disposal of chemical by-products of, and water used in, our packaging and interconnect materials production processes, and the emission of volatile organic compounds and the discharge and disposal of solid industrial wastes from electronic manufacturing services operations. We have made, and expect to continue to make, expenditures to maintain strict compliance with such environmental laws and regulations, and any failure to comply with such environmental laws and regulations

may result in civil, administrative or criminal fines or sanctions, claims for environmental damage and/or remediation obligations, the revocation of certain authorizations related to the environment or the temporary or permanent closure of facilities.

In the past year we have been subject to certain environmental administrative actions and judicial proceedings related to wastewater issues at certain of our plants in our Chung Li facility and Kaohsiung facility. As a result of these proceedings, we have been subject to monetary fines as well as sanctions, including orders to suspend or limit our operations and criminal charges against us and certain of our employees.

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As of the date of this annual report, the penalties we have incurred as a result of these proceedings included a NT$110.1 million (US$3.7 million) administrative penalty, a suspension order for our K7 Plant's wafer-level process where nickel is used and a criminal indictment against us by the Kaohsiung District Prosecutors Office. In April 2014, in response to the Kaohsiung City Environmental Protection Bureau's examination processes for the resumption of our operations at the K7 Plant wafer-level process where nickel is used, we submitted a revised improvement plan to the Kaohsiung City Environmental Protection Bureau for their review. However, whether and when our improvement plan will be approved so that the suspension order will be lifted by the Kaohsiung City Environmental Protection Bureau is currently unknown. While we are defending the proceedings vigorously, the ultimate outcome of the matter is uncertain, and the amount of possible loss, if any, is currently not estimable. For additional details of these administrative actions and judicial proceedings related to our K7 Plant see "Item 4. Information on the Company— Business Overview— Environmental Matters," "Item 4. Information on the Company—Property, Plants and Equipment" and "Item 8. Financial Information— Consolidated Statements and Other Financial Information— Legal Proceedings."

We may be subject to other new environmental claims, charges or investigations. Defending against any of these pending or future actions will likely be costly and time-consuming and could significantly divert management's efforts and resources. The ultimate outcome of these proceedings cannot be predicted with certainty. Any penalties, fines, damages or settlements made in connection with these criminal, civil, and/or administrative investigations and/or lawsuits may have a material adverse effect on our business, results of operations and future prospects.

In order to demonstrate our commitment to environmental protection, in December 2013, our board of directors approved contributions to environmental protection efforts in Taiwan in a total amount of not less than NT$3,000.0 million (US$100.6 million), to be made in the next 30 years. The costs of current and future compliance with environmental laws and regulations could require us to acquire costly equipment or to incur other significant expenses that may have a material adverse effect on our financial condition and results of operations.

Negative publicity may adversely affect our brand and reputation, which may result in a material adverse impact on our business, results of operations and prospects and cause fluctuations in the price of our common shares and ADSs.

Any negative publicity may damage our brand and reputation, harm our ability to attract and retain customers and result in a material adverse impact on our results of operations and prospects as well as cause fluctuations in the trading price of our common shares and ADSs. In particular, we have experienced and may continue to experience negative publicity in connection with recent administrative penalties and criminal charges related to alleged violations of environmental regulations and laws. For further details see "—Any environmental claims or failure to comply with any present or future environmental regulations, as well as any fire or other industrial accident, may require us to spend additional funds and may materially and adversely affect our financial condition and results of operations," "Item 4. Information on the Company— Business Overview— Environmental Matters," "Item 4. Information on the Company—Property, Plants and Equipment" and "Item 8. Financial Information— Consolidated Statements and Other Financial Information— Legal Proceedings."

Climate change, other environmental concerns and green initiatives also presents other commercial challenges, economic risks and physical risks that could harm our results of operations or affect the manner in which we conduct our business.

Increasing climate change and environmental concerns could affect the results of our operations if any of our customers request that we exceed any standards set for environmentally compliant products and services, or if raw materials and/or products are required to meet strict inspection standards with respect to any radioactive contamination as a result of concerns arising from radiation leaking incidents, such as the radiation leak which occurred in March 2011 in Japan. If we are unable to offer such products or offer products that are compliant, but

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are not as reliable due to the lack of reasonably available alternative technologies, it may harm our results of operations.

Furthermore, energy costs in general could increase significantly due to climate change regulations. Therefore, our energy costs may increase substantially if utility or power companies pass on their costs, fully or partially, such as those associated with carbon taxes, emission cap and carbon credit trading programs.

We may be subject to intellectual property rights disputes, which could materially adversely affect our business.

Our ability to compete successfully and achieve future growth depends, in part, on our ability to develop and protect our proprietary technologies and to secure on commercially acceptable terms certain technologies that we do not own. We cannot assure you that we will be able to independently develop, obtain patents for, protect or secure from any third party, the technologies required.

Our ability to compete successfully also depends, in part, on our ability to operate without infringing the proprietary rights of others. In particular, the semiconductor and electronic industries are characterized by frequent litigation regarding patent and other intellectual property rights. In February 2006, Tessera Inc. filed a suit against us and others alleging patent infringement, and we entered into a settlement with Tessera, Inc. in February 2014, which we will pay a total of US$30 million to Tessera, Inc. in relation to these patent infringement claims. See “Item 8. Financial Information— Consolidated Statements and Other Financial Information— Legal Proceedings.” Any litigation, whether as plaintiff or defendant and regardless of the outcome, is costly and diverts company resources.

Any of the foregoing could harm our competitive position and render us unable to provide some of our services operations.

Our major shareholders may take actions that are not in, or may conflict with, our public shareholders’ best interest.

Members of the Chang family own, directly or indirectly, a significant interest in our outstanding common shares. See “Item 7. Major Shareholders and Related Party Transactions—Major Shareholders.” Accordingly, these shareholders will continue to have the ability to exercise a significant influence over our business, including matters relating to:

- our management and policies;
- the timing and distribution of dividends; and
- the election of our directors and supervisors.

Members of the Chang family may take actions that you may not agree with or that are not in our or our public shareholders’ best interests.

We are an ROC company and, because the rights of shareholders under ROC law differ from those under U.S. law and the laws of certain other countries, you may have difficulty protecting your shareholder rights.

Our corporate affairs are governed by our Articles of Incorporation and by the laws governing corporations incorporated in the ROC. The rights of shareholders and the responsibilities of management and the members of the board of directors under ROC law are different from those applicable to a corporation incorporated in the United States and certain other countries. As a result, public shareholders of ROC companies may have more difficulty in protecting their interests in connection with actions taken by management or members of the board of directors than they would as public shareholders of a corporation in the United States or certain other countries.

We face risks associated with uncertainties in PRC laws and regulations.

We operate packaging and testing facilities, electronic manufacturing services and real estate in the PRC through our subsidiaries incorporated in the PRC. Under PRC laws and regulations, foreign investment projects, such as our subsidiaries, must obtain certain approvals from the relevant governmental authorities in the provinces or special economic zones in which they are located and, in some circumstances, from the relevant authorities in the PRC's central government. Foreign investment projects must also comply with certain regulatory requirements.

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However, PRC laws and regulations are often subject to varying interpretations and means of enforcement, and additional approvals from the relevant governmental authorities may be required for the operations of our PRC subsidiaries. If required, we cannot assure you that we will be able to obtain these approvals in a timely manner, if at all. Because the PRC government holds significant discretion in determining matters relating to foreign investment, we cannot assure you that the relevant governmental authorities will not take action that is materially adverse to our PRC operations.

Escalations in tensions with North Korea could have a material adverse effect on our business and results of operations.

Relations between Korea and North Korea have been tense throughout Korea's modern history. The level of tension between the two Koreas has fluctuated and may increase abruptly as a result of future events. In particular, there have been heightened security concerns in recent years stemming from North Korea's nuclear weapon and long-range missile programs as well as its hostile military actions against Korea. North Korea renounced its obligations under the Nuclear Non-Proliferation Treaty in January 2003 and conducted a nuclear test in October 2006, which increased tensions in the region and elicited strong objections worldwide. Despite condemnation from the United Nations and international community, North Korea has conducted the nuclear tests in the past and may conduct new forms of nuclear tests in the future.

Revenue from our subsidiary, ASE Korea, accounts for 10.8% of the revenue generated from our packaging and testing business in 2013. There can be no assurance that the level of tension on the Korean peninsula will not escalate in the future. Any further increase in tensions, which may occur, for example, if North Korea experiences a leadership crisis, high level contacts between Korea and North Korea break down or military hostilities occur, could have a material adverse effect on ASE Korea, which in turn, will have a material adverse effect on our packaging and testing business, and our results of operations.

Any impairment charges may have a material adverse effect on our net income.

Under IFRS, we are required to evaluate our assets, such as equipment, goodwill and investments, for possible impairment at least annually or whenever there is an indication of impairment. If certain criteria are met, we are required to record an impairment charge.

With respect to assets, we recognized impairment charges of NT$97.2 million and NT$691.9 million (US$23.2 million) in 2012 and 2013, respectively, primarily as a result of an impairment charge related to buildings and improvement, and impaired equipment and investment. There were no impairment charges related to goodwill in 2012 and 2013. See "Item 5. Operating and Financial Review and Prospects—Operating Results and Trend Information—Critical Accounting Policies and Estimates—Realizability of Long-Lived Assets" and "Item 5. Operating and Financial Review and Prospects—Operating Results and Trend Information—Goodwill."

We are unable to estimate the extent and timing of any impairment charges for future years and we cannot give any assurance that impairment charges will not be required in periods subsequent to December 31, 2013. Any impairment charge could have a material adverse effect on our net income. The determination of an impairment charge at any given time is based significantly on our expected results of operations over a number of years in the future. As a result, an impairment charge is more likely to occur during a period in which our operating results and outlook are otherwise already depressed.

Our adoption of new financial reporting standards, effective January 1, 2013, may have material impact on our financial statements thereafter

We have historically presented our consolidated financial statements, including our consolidated financial statements for the year ended December 31, 2012, in accordance with ROC GAAP for purposes of our filings with the Taiwan Stock Exchange, with reconciliation to U.S. GAAP for certain filings with the SEC. According to the announcement of the FSC, on May 14, 2009, effective January 1, 2013, companies listed on the Taiwan Stock Exchange, including us, must report their financial statements in accordance with the Taiwan-IFRS. See “Item 5. Operating and Financial Review and Prospects—Operating Results and Trend Information—Adoption of New Financial Reporting Standards” Accordingly, we have adopted Taiwan-IFRS in the ROC for our interim quarterly earnings releases beginning in the first quarter of 2013 and our annual consolidated financial statements beginning in 2013. While we have adopted Taiwan-IFRS for ROC reporting purposes, we have also adopted and will continue

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to adopt IFRS, which differs from Taiwan-IFRS, for certain filings with the SEC, including this annual report and future reports on Form 20-F. Following our adoption of IFRS for SEC filing purposes, we will no longer be required to reconcile net income and balance sheet differences under our consolidated financial statements with U.S. GAAP.

Taiwan-IFRS differs from IFRS in certain respects, including, but not limited to the extent that any new or amended standards or interpretations applicable under IFRS may not be timely endorsed by the FSC. In addition, Taiwan-IFRS and IFRS differ in certain significant respects from ROC GAAP. Because of the differences in accounting treatments, the adoption of Taiwan-IFRS and IFRS may have material impact on our results of operations and financial condition in our reported financial statements going forward. In addition, under the Taiwan-IFRS or IFRS, we are required to present the opening balance sheet on the transition date of January 1, 2012 with adjusted opening balances prepared under the Taiwan-IFRS or IFRS. Consequently, our consolidated financial statements for the year ended December 31, 2012 included in this annual report may differ materially from those included in the annual report for the year ended December 31, 2012, even though they relate to the same fiscal year.

Any failure to achieve and maintain effective internal controls could have a material adverse effect on our business and results of operations.

We are subject to reporting obligations under the U.S. securities laws. The SEC as required by Section 404 of the Sarbanes-Oxley Act of 2002 adopted rules requiring every public company to include a management report on the effectiveness of such company's internal control over financial reporting in its annual report. In addition, an independent registered public accounting firm must report on such company's internal control over financial reporting.

Our management concluded that our internal control over financial reporting was effective as of December 31, 2013 and our independent registered public accounting firm has issued an attestation report concluding that our internal control over financial reporting was effective in all material aspects. As effective internal control over financial reporting is necessary for us to produce reliable financial reports and is important to help prevent fraud, any failure to maintain effective internal control over financial reporting could harm our business and result in a loss of investor confidence in the reliability of our financial statements, which in turn could negatively impact the trading price of our common shares and ADSs. Furthermore, we may need to incur additional costs and use additional management and other resources in an effort to comply with Section 404 of the Sarbanes-Oxley Act and other requirements going forward.

Risks Relating to Taiwan, ROC

Strained relations between the ROC and the PRC could negatively affect our business and the market value of your investment.

Our principal executive offices and our principal facilities are located in Taiwan and approximately 45.2% and 48.5% of our operating revenues in 2012 and 2013, respectively, were derived from our operations in Taiwan. The ROC has a unique international political status. The government of the PRC asserts sovereignty over all of China, including Taiwan, and does not recognize the legitimacy of the ROC government. Although significant economic and cultural relations have been established in recent years between the ROC and the PRC, relations have often been strained and the PRC government has indicated that it may use military force to gain control over Taiwan in some circumstances, such as the declaration of independence by the ROC. Political uncertainty could adversely affect the prices of our common shares and ADSs. Relations between the ROC and the PRC and other factors affecting the political or economic conditions in Taiwan could have a material adverse effect on our financial condition and results of operations, as well as the market price and the liquidity of our common shares and ADSs.

Currently, we manufacture interconnect materials in the PRC through our wholly-owned subsidiary, ASE Shanghai. We also provide packaging and testing services in the PRC through some of our subsidiaries. In addition, we engage in the PRC in real estate development and the manufacturing of computer peripherals and electronic components through our subsidiaries in the PRC. See “Item 4. Information on the Company—Organizational Structure—Our Consolidated Subsidiaries.” In the past, ROC companies, including ourselves, were prohibited from

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investing in facilities for the packaging and testing of semiconductors in the PRC. Although the prohibitions have been relaxed since February 2010, the ROC government currently still restricts certain types of investments by ROC companies, including ourselves, in the PRC. We do not know when or if such laws and policies governing investment in the PRC will be amended, and we cannot assure you that such ROC investment laws and policies will permit us to make further investments of certain types in the PRC in the future that we consider beneficial to us. Our growth prospects and profitability may be adversely affected if we are restricted from making certain additional investments in the PRC and are not able to fully capitalize on the growth of the semiconductor industry in the PRC.

As a substantial portion of our business and operations is located in Taiwan, we are vulnerable to earthquakes, typhoons, drought and other natural disasters, as well as power outages and other industrial incidents, which could severely disrupt the normal operation of our business and adversely affect our results of operations.

Taiwan is susceptible to earthquakes and has experienced severe earthquakes which caused significant property damage and loss of life, particularly in the central and eastern parts of Taiwan. Earthquakes have damaged production facilities and adversely affected the operations of many companies involved in the semiconductor and other industries. For example, in June 2013, an earthquake measuring 6.5 on the Richter magnitude scale occurred in Nantou caused several death and property damages. However, the earthquake did not have a material impact on our operations. We have never experienced structural damage to our facilities or damage to our machinery and equipment as a result of these earthquakes. In the past, however, we have experienced interruptions to our production schedule primarily as a result of power outages caused by earthquakes.

Taiwan is also susceptible to typhoons, which may cause damage and business interruptions to companies with facilities located in Taiwan. For example, in 2012, Taiwan experienced severe damage from typhoons, including typhoon Saola on August 3, 2012 that caused several deaths, severe flooding and extensive property damage.

Taiwan has experienced severe droughts in the past. Although we have not been directly affected by droughts, we are dependent upon water for our packaging and substrates operations and a drought could interrupt such operations. In addition, a drought could interrupt the manufacturing process of the foundries located in Taiwan, in turn disrupting some of our customers' production, which could result in a decline in the demand for our services. In addition, the supply of electrical power in Taiwan, which is primarily provided by Taiwan Power Company, the state-owned electric utility, is susceptible to disruption that could be prolonged and frequent, caused by overload as a result of high demand or other reasons.

Our production facilities as well as many of our suppliers and customers and providers of complementary semiconductor manufacturing services, including foundries, are located in Taiwan. If our customers are affected by an earthquake, a typhoon, a drought or any other natural disasters, or power outage or other industrial incidents, it could result in a decline in the demand for our services. If our suppliers or providers of complementary semiconductor manufacturing services are affected, our production schedule could be interrupted or delayed. As a result, a major earthquake, typhoon, drought or other natural disaster in Taiwan, or a power outage or other industrial incident could severely disrupt the normal operation of our business and have a material adverse effect on our financial condition and results of operations.

We face risks related to health epidemics and outbreaks of contagious diseases, including H1N1 influenza, H5N1 influenza, H7N9 influenza and Severe Acute Respiratory Syndrome, or SARS.

There have been reports of outbreaks of a highly pathogenic influenza caused by the H1N1 virus, as well as an influenza caused by the H5N1 virus, in certain regions of Asia and other parts of the world. In addition, there have been recent reports of outbreaks of an avian flu caused by the H7N9 virus, including confirmed human cases, in the PRC. An outbreak of such contagious diseases in the human population could result in a widespread health crisis that

could adversely affect the economies and financial markets of many countries. Additionally, a recurrence of SARS, a highly contagious form of atypical pneumonia, similar to the occurrence in 2003 which affected the PRC, Hong Kong, Taiwan, Singapore, Vietnam and certain other countries, would also have similar adverse effects. Since most of our operations and customers and suppliers are based in Asia (mainly in Taiwan), an outbreak of H1N1 influenza, H5N1 influenza, H7N9 influenza, SARS or other contagious diseases in Asia or elsewhere, or the perception that such an outbreak could occur, and the measures taken by the governments of countries affected, including the ROC and the PRC, could adversely affect our business, financial condition or results of operations.

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Risks Relating to Ownership of Our Common Shares and the ADSs

The market for our common shares and the ADSs may not be liquid.

Active, liquid trading markets generally result in lower price volatility and more efficient execution of buy and sell orders for investors, compared to less active and less liquid markets. Liquidity of a securities market is often a function of the volume of the underlying shares that are publicly held by unrelated parties.

There has been no trading market outside the ROC for our common shares and the only trading market for our common shares is the Taiwan Stock Exchange. The outstanding ADSs are listed on the New York Stock Exchange. There is no assurance that the market for our common shares or the ADSs will be active or liquid.

Although ADS holders are entitled to withdraw our common shares underlying the ADSs from the depositary at any time, ROC law requires that our common shares be held in an account in the ROC or sold for the benefit of the holder on the Taiwan Stock Exchange. In connection with any withdrawal of common shares from our ADS facility, the ADSs evidencing these common shares will be cancelled. Unless additional ADSs are issued, the effect of withdrawals will be to reduce the number of outstanding ADSs. If a significant number of withdrawals are effected, the liquidity of our ADSs will be substantially reduced. We cannot assure you that the ADS depositary will be able to arrange for a sale of deposited shares in a timely manner or at a specified price, particularly during periods of illiquidity or volatility.

If a non-ROC holder of ADSs withdraws and holds common shares, such holder of ADSs will be required to appoint a tax guarantor, local agent and custodian bank in the ROC and register with the Taiwan Stock Exchange in order to buy and sell securities on the Taiwan Stock Exchange.

When a non-ROC holder of ADSs elects to withdraw and hold common shares represented by ADSs, such holder of the ADSs will be required to appoint an agent for filing tax returns and making tax payments in the ROC. Such agent will be required to meet the qualifications set by the ROC Ministry of Finance and, upon appointment, becomes the guarantor of the withdrawing holder's tax payment obligations. Evidence of the appointment of a tax guarantor, the approval of such appointment by the ROC tax authorities and tax clearance certificates or evidentiary documents issued by such tax guarantor may be required as conditions to such holder repatriating the profits derived from the sale of common shares. We cannot assure you that a withdrawing holder will be able to appoint, and obtain approval for, a tax guarantor in a timely manner.

In addition, under current ROC law, such withdrawing holder is required to register with the Taiwan Stock Exchange and appoint a local agent in the ROC to, among other things, open a bank account and open a securities trading account with a local securities brokerage firm, pay taxes, remit funds and exercise such holder's rights as a shareholder. Furthermore, such withdrawing holder must appoint a local bank or a local securities firm to act as custodian for confirmation and settlement of trades, safekeeping of securities and cash proceeds and reporting and declaration of information. Without satisfying these requirements, non-ROC withdrawing holders of ADSs would not be able to hold or otherwise subsequently sell our common shares on the Taiwan Stock Exchange or otherwise.

Pursuant to the Regulations Governing Securities Investment and Futures Trading in Taiwan by Mainland Area Investors (the "Mainland Investors Regulations"), only qualified domestic institutional investors ("QDIIs") or persons that have otherwise obtained the approval from the ROC Investment Commission of the ROC Ministry of Economic Affairs ("MOEAIC") and registered with the Taiwan Stock Exchange are permitted to withdraw and hold our shares from a depositary receipt facility. In order to hold our shares, such QDIIs are required to appoint an agent and custodian as required by the Mainland Investors Regulations. If the aggregate amount of our shares held by any QDII or shares received by any QDII upon a single withdrawal accounts for 10% of our total issued and outstanding shares,

such QDII must obtain the prior approval from the MOEAIC. We cannot assure you that such approval would be granted.

The market value of your investment may fluctuate due to the volatility of the ROC securities market.

The trading price of our ADSs may be affected by the trading price of our common shares on the Taiwan Stock Exchange. The ROC securities market is smaller and more volatile than the securities markets in the United States and in many European countries. The Taiwan Stock Exchange has experienced substantial fluctuations in the prices and volumes of sales of listed securities and there are currently limits on the range of daily price movements on the Taiwan Stock Exchange. The Taiwan Stock Exchange Index peaked at 12,495.3 in February 1990, and subsequently

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fell to a low of 2,560.5 in October 1990. On March 13, 2000, the Taiwan Stock Exchange Index experienced a 617-point drop, which represented the single largest decrease in the Taiwan Stock Exchange Index in its history. During the period from January 1, 2013 to December 31, 2013, the Taiwan Stock Exchange Index peaked at 8,623.43 on December 30, 2013, and reached a low of 7,616.64 on January 17, 2013. Over the same period, the trading price of our common shares ranged from NT$30.80 per share to NT$23.50 per share. On April 11, 2014, the Taiwan Stock Exchange Index closed at 8,908.05, and the closing value of our common shares was NT$32.90 per share.

The Taiwan Stock Exchange is particularly volatile during times of political instability, including when relations between Taiwan and the PRC are strained. Several investment funds affiliated with the ROC government have also from time to time purchased securities from the Taiwan Stock Exchange to support the trading level of the Taiwan Stock Exchange. Moreover, the Taiwan Stock Exchange has experienced problems such as market manipulation, insider trading and settlement defaults. The recurrence of these or similar problems could have an adverse effect on the market price and liquidity of the securities of ROC companies, including our common shares and ADSs, in both the domestic and international markets.

Holders of common shares and ADSs may experience dilution if we issue stock bonuses and stock options to employees or sell additional equity or equity-linked securities.

Similar to other ROC technology companies, we issue bonuses from time to time in the form of common shares. Prior to 2009, bonuses issued in the form of our common shares were valued at par. Beginning in 2009, bonuses in the form of our common shares are valued at the closing price of our common shares on the day prior to our shareholders' meeting. In addition, under the ROC Company Law we may, upon approval from our board of directors and the ROC Securities and Futures Bureau of the FSC, establish employee stock option plans provided that shareholders' approval is required if the exercise price of an option would be less than the closing price of our common shares on the Taiwan Stock Exchange on the grant date of the option. We currently maintain four employee stock option plans pursuant to which our full-time employees, including our domestic and foreign subsidiaries, are eligible to receive stock option grants. As of December 31, 2013, 285,480,400 options granted by ASE Inc. were outstanding. See “Item 6. Directors, Senior Management and Employees—Compensation—ASE Inc. Employee Bonus and Stock Option Plans.” The issuance of our common shares pursuant to stock bonuses or stock options may have a dilutive effect on the holders of outstanding common shares and ADSs.

In addition, the sale of additional equity or equity-linked securities may result in additional dilution to our shareholders. In September 2013, we issued US$400.0 million unsecured zero coupon convertible bonds due 2018 to fund procurement of raw materials from overseas. The bonds are convertible by holders at any time on or after October 16, 2013 and up to (and including) August 26, 2018. The conversion price was adjusted from NT$33.085 per common share to NT$33.05 per common share on September 24, 2013 due to the Capital Increase (as defined below). As of December 31, 2013, none of the bonds has been converted into our common shares, and the balance of the outstanding bonds were US$400.0 million. Upon full conversion, the outstanding bonds will be converted into 362,553,707 common shares if based on the current conversion price, representing 4.7% of our outstanding shares at the end of December 31, 2013. Any conversion of bonds, in full or in part, would dilute the ownership interest of our existing shareholders and our earnings per share and could adversely affect the market price of our ADSs. Moreover, in September 2013, we issued 130,000,000 common shares for public subscription which was effected by way of an increase in our authorized share capital in the amount of NT$1,300.0 million (US$43.6 million) (the “Capital Increase”). The issuance of the zero coupon convertible bonds due 2018 and the Capital Increase could cause dilution to our ADS holders.

Restrictions on the ability to deposit our common shares into our ADS facility may adversely affect the liquidity and price of our ADSs.

The ability to deposit common shares into our ADS facility is restricted by ROC law. A significant number of withdrawals of common shares underlying our ADSs would reduce the liquidity of the ADSs by reducing the number of ADSs outstanding. As a result, the prevailing market price of our ADSs may differ from the prevailing market price of our common shares on the Taiwan Stock Exchange. Under current ROC law, no person or entity, including you and us, may deposit our common shares in our ADS facility without specific approval of the FSC, unless:

(1) we pay stock dividends on our common shares;

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(2) we make a free distribution of common shares;

(3) holders of ADSs exercise preemptive rights in the event of capital increases; or

(4) to the extent permitted under the deposit agreement and the relevant custody agreement, investors purchase our common shares, directly or through the depositary, on the Taiwan Stock Exchange, and deliver our common shares to the custodian for deposit into our ADS facility, or our existing shareholders deliver our common shares to the custodian for deposit into our ADS facility.

With respect to item (4) above, the depositary may issue ADSs against the deposit of those common shares only if the total number of ADSs outstanding following the deposit will not exceed the number of ADSs previously approved by the FSC, plus any ADSs issued pursuant to the events described in items (1), (2) and (3) above.

In addition, in the case of a deposit of our common shares requested under item (4) above, the depositary will refuse to accept deposit of our common shares if such deposit is not permitted under any legal, regulatory or other restrictions notified by us to the depositary from time to time, which restrictions may include blackout periods during which deposits may not be made, minimum and maximum amounts and frequency of deposits.

The depositary will not offer holders of ADSs preemptive rights unless the distribution of both the rights and the underlying common shares to our ADS holders are either registered under the Securities Act or exempt from registration under the Securities Act.

Holders of ADSs will not have the same voting rights as our shareholders, which may affect the value of their ADSs.

The voting rights of a holder of ADSs as to our common shares represented by its ADSs are governed by the deposit agreement. Holders of ADSs will not be able to exercise voting rights on an individual basis. If holders representing at least 51% of the ADSs outstanding at the relevant record date instruct the depositary to vote in the same manner regarding a resolution, including the election of directors and supervisors, the depositary will cause all common shares represented by the ADSs to be voted in that manner. If the depositary does not receive timely instructions representing at least 51% of the ADSs outstanding at the relevant record date to vote in the same manner for any resolution, including the election of directors and supervisors, holders of ADSs will be deemed to have instructed the depositary or its nominee to authorize all our common shares represented by the ADSs to be voted at the discretion of our chairman or his designee, which may not be in the interest of holders of ADSs. Moreover, while shareholders who own 1% or more of our outstanding shares are entitled to submit one proposal to be considered at our annual general meetings of shareholders, only holders representing at least 51% of our ADSs outstanding at the relevant record date are entitled to submit one proposal to be considered at our annual general meetings of shareholders. Hence, only one proposal may be submitted on behalf of all ADS holders.

The right of holders of ADSs to participate in our rights offerings is limited, which could cause dilution to your holdings.

We may from time to time distribute rights to our shareholders, including rights to acquire our securities. Under the deposit agreement, the depositary will not offer holders of ADSs those rights unless both the distribution of the rights and the underlying securities to all our ADS holders are either registered under the Securities Act or exempt from registration under the Securities Act. Although we may be eligible to take advantage of certain exemptions under the Securities Act available to certain foreign issuers for rights offerings, we can give no assurances that we will be able to establish an exemption from registration under the Securities Act, and we are under no obligation to file a registration statement for any of these rights. Accordingly, holders of ADSs may be unable to participate in our rights offerings and may experience dilution of their holdings.

If the depositary is unable to sell rights that are not exercised or not distributed or if the sale is not lawful or reasonably practicable, it will allow the rights to lapse, in which case holders of ADSs will receive no value for these rights.

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Changes in exchange controls which restrict your ability to convert proceeds received from your ownership of ADSs may have an adverse effect on the value of your investment.

Under current ROC law, the depositary, without obtaining approvals from the Central Bank of the Republic of China (Taiwan) or any other governmental authority or agency of the ROC, may convert NT dollars into other currencies, including U.S. dollars, for:

- the proceeds of the sale of common shares represented by ADSs or received as stock dividends from our common shares and deposited into the depositary receipt facility; and
- any cash dividends or distributions received from our common shares.

In addition, the depositary may also convert into NT dollars incoming payments for purchases of common shares for deposit in the ADS facility against the creation of additional ADSs. The depositary may be required to obtain foreign exchange approval from the Central Bank of the Republic of China (Taiwan) on a payment-by-payment basis for conversion from NT dollars into foreign currencies of the proceeds from the sale of subscription rights for new common shares. Although it is expected that the Central Bank of the Republic of China (Taiwan) will grant this approval as a routine matter, we cannot assure you that in the future any approval will be obtained in a timely manner, or at all.

Under the ROC Foreign Exchange Control Law, the Executive Yuan of the ROC government may, without prior notice but subject to subsequent legislative approval, impose foreign exchange controls in the event of, among other things, a material change in international economic conditions. We cannot assure you that foreign exchange controls or other restrictions will not be introduced in the future.

The value of your investment may be reduced by possible future sales of common shares or ADSs by us or our shareholders.

While we are not aware of any plans by any major shareholders to dispose of significant numbers of common shares, we cannot assure you that one or more existing shareholders or owners of securities convertible or exchangeable into or exercisable for our common shares or ADSs will not dispose of significant numbers of common shares or ADSs. In addition, several of our subsidiaries and affiliates hold common shares, depositary shares representing common shares and options to purchase common shares or ADSs. They may decide to sell those securities in the future. See “Item 7. Major Shareholders and Related Party Transactions—Major Shareholders” for a description of our significant shareholders and affiliates that hold our common shares.

We cannot predict the effect, if any, that future sales of common shares or ADSs, or the availability of common shares or ADSs for future sale, will have on the market price of our common shares or the ADSs prevailing from time to time. Sales of substantial numbers of common shares or ADSs in the public market, or the perception that such sales may occur, could depress the prevailing market prices of our common shares or the ADSs.

Provisions of our convertible bonds could discourage an acquisition of us by a third party.

In September 2013, we completed an offering of US$400.0 million in aggregate principal amount of convertible bonds due 2018. Certain provisions of our convertible bonds could make it more difficult or more expensive for a third party to acquire us. In the event that (1) our common shares cease to be listed on the Taiwan Stock Exchange; (2) any person or persons acting together acquire control of us if such person or persons do not have, and would not be deemed to have, control of us as of August 29, 2013; (3) we consolidate with or merge into or sell or transfer all or substantially all of our assets to any other person, unless the consolidation, merger, sale or transfer will

not result in the other person or persons acquiring control over us or the successor entity; or (4) one or more other persons acquire the legal or beneficial ownership of all or substantially all of our capital stock, holders of these bonds shall have the right to require us to repurchase all or any portion of the principal amount thereof (which is US$200,000 or any integral multiples thereof) of such holder's bonds. "Control" means the right to appoint and/or remove all or the majority of the members of our board of directors or other governing body, whether obtained directly or indirectly, and whether obtained by ownership of share capital, the possession of voting rights, contract or otherwise.

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Item 4. Information on the Company

HISTORY AND DEVELOPMENT OF THE COMPANY

Advanced Semiconductor Engineering, Inc. was incorporated on March 23, 1984 as a company limited by shares under the ROC Company Law, with facilities in the Nantze Export Processing Zone located in Kaohsiung, Taiwan. Our principal executive offices are located at 26 Chin Third Road, Nantze Export Processing Zone, Nantze, Kaohsiung, Taiwan, ROC and our telephone number at the above address is (886) 7361-7131. Our common shares have been listed on the Taiwan Stock Exchange under the symbol “2311” since July 1989, and ADSs representing our common shares have been listed on the New York Stock Exchange under the symbol “ASX” since September 2000.

Acquisition of Shares of Universal Scientific

In February 2010, we, along with our two subsidiaries, J&R Holding Limited and ASE Test, through a cash and stock tender offer, acquired 641,669,316 common shares of Universal Scientific at NT$21 per share, amounting to NT$13,475.1 million in total, resulting in our controlled ownership over Universal Scientific. As a result, Universal Scientific became our consolidated subsidiary. In August 2010, we acquired additional 222,243,661 shares of Universal Scientific through another tender offer at NT$21 per share, amounting to NT$4,667.1 million in total. We owned 99.2% of the outstanding common shares of Universal Scientific as of March 31, 2014.

Acquisition and Merger of Yang Ting

We acquired 100.0% equity interest in Yang Ting, a ROC-based provider of semiconductor packaging and testing services, in January 2012. In August 2013, Yang Ting merged into ASE Inc. as part of our corporate reorganization plan.

Acquisition of Wuxi Tongzhi

On May 27, 2013, we, through our subsidiary ASESH AT, entered into a share purchase agreement with the shareholder of Wuxi Tongzhi in connection with the acquisition of 100% of Wuxi Tongzhi, a PRC-based provider of semiconductor packaging and testing services, for a purchase price of NT$338.0 million (US$11.3 million).

IPO of Universal Scientific Shanghai

In February 2012, Universal Scientific Shanghai, a subsidiary of Universal Scientific, completed its initial public offering, or IPO, on the Shanghai Stock Exchange. Total proceeds from the IPO were approximately RMB811.7 million prior to deducting underwriting discounts and commissions. As of March 31, 2014, we indirectly held 88.6% of the total outstanding shares of Universal Scientific Shanghai through our subsidiaries Universal Scientific and ASE Shanghai.

Public Offering by Way of Capital Increase

In September 2013, we issued 130,000,000 common shares for public subscription which was completed in October 2013, which was effected by way of an increase in our authorized share capital in the amount of NT$1,300.0 million (US$43.6 million). The subscription price was NT$26.1 (US$0.87) per share and NT$3,393.0 million (US$113.7 million) in the aggregate. We have used the net proceeds from the Capital Increase to fund machine and equipment purchases.

Convertible Bond Offerings

In September 2013, we completed an offering of US$400.0 million in aggregate principal amount of zero coupon convertible bonds due 2018. The bonds were offered to certain non-U.S. persons in compliance with Regulation S under the Securities Act. The bonds are convertible by holders at any time on or after October 16, 2013 and up to (and including) August 26, 2018. The initial conversion price was NT$33.085 per common share, subject to certain adjustments, determined on the basis of a fixed exchange rate of NT$29.956 = US$1.00 (which represents an approximately 31% conversion premium over the closing trading price of our common shares on August 28, 2013 of NT$25.20 per common share). The conversion price is subject to adjustment upon the occurrence of certain events. The conversion price was adjusted from NT$33.085 per common share to NT$33.05 per common share on

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September 24, 2013 due to the Capital Increase. The bonds will mature on September 5, 2018, unless previously repurchased or converted in accordance with their terms prior to such date.

Establishment of UGJQ

In September 2013, Universal Scientific Group established a new subsidiary UGJQ, 100% of the capital stock of which is directly owned by Universal Scientific Shanghai. UGJQ is engaged in the processing and sale of computer and communication peripherals as well as technology import and export business.

For more information on our history and development, see "—Organizational Structure."

BUSINESS OVERVIEW

ASE is the world's largest independent provider of semiconductor packaging and testing services based on 2013 revenues. Our services include semiconductor packaging, production of interconnect materials, front-end engineering testing, wafer probing and final testing services, as well as integrated solutions for electronics manufacturing services in relation to computers, peripherals, communications, industrial, automotive, and storage and server applications. We believe that, as a result of the following strengths, we are better positioned than our competitors to meet customers' requirements across a wide range of end-use applications:

- our ability to provide a broad range of cost-effective semiconductor packaging and testing services on a large-scale turnkey basis within key centers of semiconductor manufacturing;
- our expertise in developing and providing cost-effective packaging, interconnect materials and testing technologies and solutions;
- our ability to provide proactive original design manufacturing services using innovative solution-based designs;
- our scale of operations and financial position, which enable us to make significant investments in capacity expansion and research and development as well as to make selective acquisitions;
- our geographic presence in key centers of outsourced semiconductor and electronics manufacturing; and
- our long-term relationships with providers of complementary semiconductor manufacturing services, including our strategic alliance with TSMC, one of the world's largest dedicated semiconductor foundries.

We believe that it is still the trend for semiconductor companies to outsource their packaging, testing and manufacturing requirements as semiconductor companies rely on independent providers of foundry, advanced packaging, testing and electronic manufacturing services. In response to the increased pace of new product development and shortened product life and production cycles, semiconductor companies are increasingly seeking both independent packaging and testing companies that can provide turnkey services in order to reduce time-to-market and electronic manufacturing companies with proactive original design capabilities that can provide large-scale production. We believe that our expertise and scale in advanced technology and our ability to integrate our broad range of solutions into turnkey services and electronic manufacturing services allow us to benefit from the accelerated outsourcing trend and better serve our existing and potential customers.

We believe that we have benefited, and will continue to benefit, from our geographic location in Taiwan. Taiwan is currently the largest center for outsourced semiconductor manufacturing in the world and has a high concentration of electronics manufacturing service providers. Our close proximity to foundries and other providers of complementary

semiconductor manufacturing services is attractive to our customers who wish to take advantage of the efficiencies of a total semiconductor manufacturing solution by outsourcing several stages of their manufacturing requirements. We believe that, as a result, we are well positioned to meet the advanced semiconductor engineering and manufacturing requirements of our customers.

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Industry Background

General

Semiconductors are the basic building blocks used to create an increasing variety of electronic products and systems. Continuous improvements in semiconductor process and design technologies have led to smaller, more complex and more reliable semiconductors at a lower cost per function. These improvements have resulted in significant performance and price benefits to manufacturers of electronic products. As a result, semiconductor demand has grown substantially in our primary end-user markets for communications, computing and consumer electronics, and has experienced increased growth in other markets such as automotive products and industrial automation and control systems.

The semiconductor industry is characterized by strong long-term growth, with periodic and sometimes severe cyclical downturns. The Semiconductor Industry Association reported that worldwide sales of semiconductors increased from approximately US$51 billion in 1990 to approximately US$305.6 billion in 2013. We believe that overall growth and cyclical fluctuations will continue over the long-term in the semiconductor industry.

Electronic Manufacturing Services

Electronics manufacturing service providers typically achieve large economies of scale in manufacturing by pooling together product design techniques and also provide value-added services such as warranties and repairs. Companies who do not need to manufacture a constant supply of products have increasingly outsourced their manufacturing to these service providers so that they can respond quickly and efficiently to sudden spikes in demand without having to maintain large inventories of products.

Electronics manufacturing services are sought by companies in a wide range of industries including, among others, information, communications, consumer electronics, automotive electronics, medical treatment, industrial applications, aviation, navigation, national defense and transportation. Although affected by global economic fluctuations, we expect the electronics manufacturing services industry to continue to grow in the long-term, and we have enhanced our presence in the industry since 2010 through our acquisition of a controlling interest in Universal Scientific.

Outsourcing Trends in Semiconductor Manufacturing

Historically, semiconductor companies designed, manufactured, packaged and tested semiconductors primarily within their own facilities. However, there is a clear trend in the industry to outsource the manufacturing process. Virtually every significant stage of the manufacturing process can be outsourced. Wafer foundry services, semiconductor packaging and testing services, and electronic manufacturing services are currently the largest segments of the independent semiconductor manufacturing services market.

The availability of technologically advanced independent manufacturing services has also enabled the growth of “fabless” semiconductor companies that focus on semiconductor design and marketing, while outsourcing their wafer fabrication, packaging and testing requirements to independent companies. We believe that the growth in the number and scale of fabless semiconductor companies that rely solely on independent companies to meet their manufacturing requirements will continue to be a driver of growth in the market for independent foundry, packaging and testing services. Similarly, the availability of technologically advanced independent manufacturing services has encouraged integrated device manufacturers, which traditionally have relied on in-house semiconductor manufacturing capacity, to increasingly outsource their manufacturing requirements to independent semiconductor manufacturing companies.

We believe the outsourcing of semiconductor manufacturing services will increase in the future for many reasons, including the following:

- Technological Expertise and Significant Capital Expenditure. Semiconductor manufacturing processes have become highly complex, requiring substantial investment in specialized equipment and facilities and sophisticated engineering and manufacturing expertise. In addition, product life cycles have been shortening, magnifying the need to continuously upgrade or replace manufacturing equipment to accommodate new products. As a result, new investments in in-house facilities are becoming less desirable to integrated device manufacturers because of the high investment costs as well as the inability to achieve

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sufficient economies of scale and utilization rates necessary to be competitive with the independent service providers. Independent packaging, testing, foundry and electronic manufacturing services companies, on the other hand, are able to realize the benefits of specialization and achieve economies of scale by providing services to a large base of customers across a wide range of products. This enables them to reduce costs and shorten production cycles through high capacity utilization and process expertise. In the process, they are also able to focus on discrete stages of semiconductor manufacturing and deliver services of superior quality.

In recent years, semiconductor companies have significantly reduced their investment in in-house technology capacities. As a result, some semiconductor companies may have limited in-house expertise and capacity to accommodate large orders following a recovery in demand, particularly in the area of advanced technology. On the other hand, some semiconductor companies with in-house operations are under increasing pressure to rationalize these operations by relocating to locations with lower costs or better infrastructure, in order to lower manufacturing costs and shorten production cycle time. We expect semiconductor companies to increasingly outsource their requirements to take advantage of the advanced technology and scale of operations of independent packaging and testing companies and electronic manufacturing services providers.

- Increased Adoption of Copper Wire Bonding. With significant cost saving benefits over conventional gold wiring technology, semiconductor companies have been qualifying and converting volumes to copper wire based packages at a steady pace. Independent packaging companies have been more aggressive in building copper bonding capacity than integrated device manufacturers and have accumulated significantly more experience and acumen in the new technology. Due to the inherent cost savings and comparable yield of copper and the lack of in-house capacity and experience among integrated device manufacturers, we believe that they will continue to increase the outsourcing of their manufacturing services for copper wire packages to independent packaging and testing companies.

- Focus on Core Competencies. As the semiconductor industry becomes more competitive, semiconductor companies are expected to further outsource their semiconductor manufacturing requirements in order to focus their resources on core competencies, such as semiconductor design and marketing.

- Time-to-Market Pressure. The increasingly short product life cycle has accelerated time-to-market pressure for semiconductor companies, leading them to rely increasingly on outsourced suppliers as a key source for effective manufacturing solutions.

    - Capitalize on the High Growth Rates in Emerging Markets. Emerging markets, and China in particular, have become both major manufacturing centers for the technology industry and growing markets for technology-based products. Thus, in order to gain direct access to the Chinese market, many semiconductor companies are seeking to establish manufacturing facilities in China by partnering with local subcontractors. As a result, certain stages of the semiconductor manufacturing process that were previously handled in-house will be increasingly outsourced in order to improve efficiency.

The Semiconductor Industry in Taiwan

The semiconductor industry in Taiwan has been a leader in, and a major beneficiary of, the trend to outsource the manufacture of semiconductors. The growth of the semiconductor industry in Taiwan has been the result of several factors. First, semiconductor manufacturing companies in Taiwan typically focus on one or two stages of the semiconductor manufacturing process. As a result, these companies tend to be more efficient and are better able to achieve economies of scale and maintain higher capacity utilization rates. Second, semiconductor manufacturing companies in Taiwan that provide the major stages of the manufacturing process are located close to each other and typically enjoy close working relationships. This close network is attractive to customers who wish to outsource multiple stages of the semiconductor manufacturing process. For instance, a customer could reduce production cycle

time and unit cost and streamline logistics by outsourcing its foundry, packaging, testing and drop shipment services to electronics manufacturing companies in Taiwan. Third, Taiwan has an educated labor pool and a large number of engineers suitable for sophisticated manufacturing industries such as semiconductors.

The semiconductor industry in Taiwan has over the past decade made significant capital expenditures to expand capacity and technological capabilities. The ROC government has also provided tax incentives and research and

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development support, both directly and indirectly such as through support of research institutes and universities. As a result of investments made in recent years, Taiwan has achieved substantial market share in the outsourced semiconductor manufacturing industry. Furthermore, the growth of Taiwan's electronics manufacturing industry, particularly in personal computer, mobile handset and digital camera design and manufacturing, has created substantial local demand for semiconductors.

The Semiconductor Industry in Other Regions of Asia

Many of the factors that contributed to the growth of the semiconductor industry in Taiwan have also contributed to the recent development of the semiconductor industry in Southeast Asia. Access to expanding semiconductor foundry services in Singapore, convenient proximity to major downstream electronics manufacturing operations in Malaysia, Singapore and Thailand, government-sponsored infrastructure support, tax incentives and pools of skilled engineers and labor at relatively low cost have all encouraged the development of back-end semiconductor service operations in Southeast Asia. The downstream electronics manufacturers in Southeast Asia have typically focused on products used in the communications, industrial and consumer electronics and personal computer peripheral sectors. The proximity to both semiconductor foundries and end users has influenced local and international semiconductor companies increasingly to obtain packaging, testing and drop shipment services from companies in Southeast Asia.

In addition, the world's leading electronics manufacturing service providers, many of them from Taiwan, are increasingly establishing manufacturing facilities in the PRC and Vietnam in order to take advantage of lower labor costs, government incentives for investment and the potential size of the domestic market for end users of electronics products. Many of the factors that contributed to the growth of the semiconductor industry in Taiwan are beginning to emerge in the PRC and may play an increasingly important role in the growth of its semiconductor industry over the long term.

Overview of Semiconductor Manufacturing Process

The manufacturing of semiconductors is a complex process that requires increasingly sophisticated engineering and manufacturing expertise. The manufacturing process may be divided into the following stages:

We are involved in all stages of the semiconductor manufacturing process except circuit design and wafer fabrication.

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Process	Description
1. Circuit Design	The design of a semiconductor is developed by laying out circuit components and interconnections.
2. Engineering Test	Throughout and following the design process, prototype semiconductors undergo engineering testing, which involves software development, electrical design validation and reliability and failure analysis.
3. Wafer Fabrication	Process begins with the generation of a photomask through the definition of the circuit design pattern on a photographic negative, known as a mask, by an electron beam or laser beam writer. These circuit patterns are transferred to the wafers using various advanced processes.
4. Wafer Probe	Each individual die is electrically tested, or probed, for defects. Dies that fail this test are marked to be discarded.
5. Packaging (or Assembly)	Packaging, also called assembly, is the processing of bare semiconductors into finished semiconductors and serves to protect the die and facilitate electrical connections and heat dissipation. The patterned silicon wafers received from our customers are diced by means of diamond saws into separate dies, also called chips. Basically each die is attached to a leadframe or a laminate (plastic or tape) substrate by epoxy resin. A leadframe is a miniature sheet of metal, generally made of copper and silver alloys, on which the pattern of input/output leads has been cut. On a laminate substrate, typically used in ball grid array, or BGA, packages, the leads take the shape of small bumps or balls. Leads on the leadframe or the substrate are connected by extremely fine gold or copper wires or bumps to the input/output terminals on the chips, through the use of automated machines known as “bonders.” Each chip is then encapsulated, generally in a plastic casing molded from a molding compound, with only the leads protruding from the finished casing, either from the edges of the package as in the case of the leadframe-based packages, or in the form of small bumps on a surface of the package as in the case of BGA or other substrate-based packages.
6. Final Test	Final testing is conducted to ensure that the packaged semiconductor meets performance specifications. Final testing involves using sophisticated testing equipment known as testers and customized software to electrically test a number of attributes of packaged semiconductors, including functionality, speed, predicted endurance and power consumption. The final testing of semiconductors

	is categorized by the functions of the semiconductors tested into logic/mixed-signal/RF/3D IC/discrete final testing and memory final testing. Memory final testing typically requires simpler test software but longer testing time per device tested.
7. Module, Board Assembly and Test	Module, board assembly and test refers to the combination of one or more packaged semiconductors with other components in an integrated module or board to enable increased functionality.
8. Material	Material refers to the interconnection of materials which connect the input/output on the semiconductor dies to the printed circuit board, such as substrate, leadframe and flip-chip.

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Strategy

Our objective is to provide integrated solutions which set industry standards, including packaging, testing services, interconnect materials design and production capabilities, and to lead and facilitate the industry trend towards outsourcing semiconductor manufacturing requirements. The principal elements of our strategy are to:

Grow Our Advanced Packaging Services and Expand into the Legacy Packaging Market

We believe that an important factor in our ability to attract leading semiconductor companies as our customers has been our ability to fulfill demand for a broad range of packaging solutions on a large scale. We intend to continue to develop process and product technologies to meet the requirements of clients using our advanced packaging services. Our expertise in packaging technology has enabled us to develop advanced solutions such as flip-chip packaging, bump chip carrier packaging, stacked die packaging and fine-pitch wire bonding. We are continuously investing in research and development in response to and in anticipation of migrations in technology and intend to continue to acquire access to new technologies through strategic alliances and licensing arrangements.

We also intend to expand our legacy leadframe-based packaging product offerings and services. We believe that our clients will continue to outsource their legacy packaging requirements. To capitalize on this trend, we plan to continuously grow our legacy packaging production and discrete packaging businesses.

The increasing miniaturization of semiconductors and the growing complexity of interconnect technology have also resulted in the blurring of the traditional distinctions among assembly at different levels of integration: chip, module, board and system. In response to this miniaturization and growing complexity, we have focused on providing module assembly services and, in addition, our subsidiary Universal Scientific has provided us with access to process and product technologies at the levels of module, board and system assembly and testing, which helps us to better anticipate industry trends and take advantage of potential growth opportunities. We expect to continue to combine our packaging, testing and materials technologies with the expertise of Universal Scientific at the systems level to develop our SiP business.

Strategically Expand and Streamline Production Capacity

To capitalize on the growing demand for advanced and legacy packaging and testing services, we intend to strategically expand our production capacity, both through internal growth and selective acquisitions and joint ventures, with a focus on providing cost competitive and innovative packaging and testing services.

For our advanced packaging and testing businesses, we intend to invest in trends that are essential to the development of the industry. We plan to expand our capacity with respect to, but not limited to, 12-inch wafer process, bumping, FC-CSP and SiP products to meet demand for smaller form factors, higher performance and higher packaging density.

In addition, we intend to promote our copper wire solutions to our customers in addition to gold wire. Gold wire is a significant raw material for us. Gold prices, however, are subject to intense fluctuations and have in the past impacted our profitability. We believe that replacing gold wire in some of our packages with copper wire technology will not only improve our profitability but will also enable us to provide more value to our customers by providing lower cost solutions, which could enhance our competitiveness and market share. We are currently the industry leader in terms of copper wire capacity. We thus plan to capitalize on the overall industry trend of copper conversion by maintaining our leadership and focusing on integrating copper wire into a wider range of traditional leadframe-based packages and higher end substrate-based packages.

We expect to focus our legacy packaging and testing on providing cost competitive services through better management of capacity utilization and efficiency improvements and offer our services on a large scale with the intention of driving more integrated device manufacturer outsourcing in the long-run.

We evaluate acquisition and joint venture opportunities on the basis of access to new markets and technology, the enhancement of our production capacity, economies of scale and management resources, and closer proximity to existing and potential customers. In 2008, we completed the acquisition of ASEWH, a company that also engages in semiconductor packaging and testing services. In February and August, 2010, we acquired an aggregate of 863,912,977 common shares of Universal Scientific through two tender offers, and we owned 99.2% of its outstanding common shares as of March 31, 2014. Universal Scientific is an electronics manufacturing services

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company that provides integrated solutions for electronic manufacturing services in relation to computers, peripherals, communications, industrial, automotive, and storage and server applications. We intend to provide our customers with more value-added products through Universal Scientific. In addition, on August 2, 2010, we also completed the acquisition of 100.0% of EEMS Test Singapore from EEMS Asia Pte. Ltd., a subsidiary of EEMS Italia S.p.A. EEMS Test Singapore is a Singapore-based provider of test solutions for the semiconductor industry. On August 27, 2010, EEMS Test Singapore changed its name to ASE Singapore II Pte. Ltd., which was subsequently merged into ASE Singapore Pte. Ltd. on January 1, 2011. We also acquired Yang Ting in January 2012 and later merged Yang Ting into ASE Inc. in August 2013 to enhance our capacity to provide packaging and testing services on discrete products. In addition, we acquired Wuxi Tongzhi in May 2013 and Universal Scientific Group established UGJQ in September 2013.

Continue to Leverage Our Presence in Key Centers of Semiconductor and Electronics Manufacturing

We intend to continue leveraging our presence in key centers of semiconductor and electronics manufacturing to further grow our business. We have significant packaging, testing and electronics manufacturing services operations in Taiwan, currently the largest center for outsourced semiconductor and electronics manufacturing in the world. This presence enables our engineers to work closely with our customers as well as foundries and other providers of complementary semiconductor and electronics manufacturing services early in the design process, enhances our responsiveness to the requirements of our customers and shortens production cycles. In addition, as a turnkey service provider, we are able to offer our products to our customers and complementary service providers within relatively close geographic proximity. Besides our current operations in Taiwan, we intend to expand our operations in our other subsidiaries.

We have primary operations in the following locations besides our locations in Taiwan:

- PRC — a fast-growing market for semiconductor and electronics manufacturing in the world;
- Korea — an important center for the manufacturing of memory and communications devices;
- Malaysia and Singapore — a center for outsourced semiconductor manufacturing in Southeast Asia;
- Silicon Valley in California — the preeminent center for semiconductor design, with a concentration of fabless customers; and
- Japan — an emerging market for packaging and testing outsourcing services as Japanese integrated device manufacturers increasingly outsource their semiconductor manufacturing requirements.

Strengthen and Develop Strategic Relationships with Our Customers and Providers of Complementary Semiconductor Manufacturing Services

We intend to strengthen existing and develop new strategic relationships with our customers and providers of other complementary semiconductor manufacturing services, such as foundries, as well as equipment vendors, raw material suppliers and technology research institutes, in order to offer our customers total semiconductor manufacturing solutions covering all stages of the manufacturing of their products from design to shipment. In addition, we are working with our customers to co-develop new packaging technologies and designs.

Since 1997, we have maintained a strategic alliance with TSMC, currently one of the world's largest dedicated semiconductor foundries, which designates us as their non-exclusive preferred provider of packaging and testing services for semiconductors manufactured by TSMC. Through our strategic alliance with and close geographic

proximity to TSMC, we are able to offer our customers a total semiconductor manufacturing solution that includes access to foundry services in addition to our packaging, testing and direct shipment services.

Principal Products and Services

We offer a broad range of advanced and legacy semiconductor packaging and testing services. In addition, we have provided electronic manufacturing services since our acquisition of a controlling interest in Universal Scientific in February 2010. Our package types generally employ either leadframes or substrates as interconnect materials. The semiconductors we package are used in a wide range of end-use applications, including communications, computing, consumer electronics, industrial, automotive and other applications. Our testing

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services include front-end engineering testing, which is performed during and following the initial circuit design stage of the semiconductor manufacturing process, wafer probe, final testing and other related semiconductor testing services. We focus on packaging and testing semiconductors. We offer our customers turnkey services which consist of packaging, testing and direct shipment of semiconductors to end users designated by our customers. Our electronics manufacturing services are used in a wide range of end-use applications, including, but not limited to, computers, peripherals, communications, industrial applications, automotive electronics, and storage and server applications. In 2013, our revenues generated from packaging, testing and electronic manufacturing services accounted for 51.2%, 11.3% and 35.7% of our operating revenues, respectively.

Packaging Services

We offer a broad range of package types to meet the requirements of our customers, with a focus on advanced packaging solutions. These include advanced packages such as flip-chip BGA, flip-chip CSP, aCSP (advanced chip scale packages) and IC wirebonding packages, including leadframe-based package types such as quad flat packages (QFP), thin quad flat packages (TQFP), bump chip carrier (BCC) and quad flat no-lead (QFN) packages, aQFN (advanced QFN) and package types based on substrates, such as Plastic BGA. In addition, we provide 3D chip packages, such as MAP POP (package on package) and aMAP POP (advanced, laser ablation type), which enable our customers to mount packages more easily. We also offer other forms of stacked die solutions in different package types, e.g., stacked die QFN, hybrid BGAs containing stacked wire bond and fc die. We are also developing the latest generation of stacked die packages based on TSV (Through Silicon Via) technology. Our first product has been a CMOS image sensor with TSV to minimize the form factor. In addition, to meet current trends towards low cost solutions, we provide copper wire bonding solutions which can be applied to current gold wire products. We believe we are among the leaders in such advanced packaging processes and technologies and are well positioned to lead the technology migration in the semiconductor packaging industry.

Advanced Packages. The semiconductor packaging industry has evolved to meet the requirements of high-performance electronics products. We believe that there will continue to be growing demand for packaging solutions with increased input/output density, smaller size and better heat dissipation characteristics.

We assemble system-in-a-package (SiP) products, which involve the integration of more than one chip into the same package. As miniaturization requirements for electronic devices increase, smaller and lighter SiPs are garnering much attention within the industry. Wafer level integration-passive device technology has become increasingly important. Passive devices such as inductors, capacitors, resistors, filters and diplexers are those components occupying the largest area in printed circuit boards; therefore, miniaturization and integration is key to advanced SiPs. This can be achieved through integrating passive components on an individual substrate using a thin film process known as MCM-D or IPD (Integrated Passive Device). The IPD can then be used as a package substrate or interposer for SiP. This manufacturing method will enhance product performance and also reduce overall costs. The extension of our current RDL (Redistribution) process can be used to build high quality factor (Q) inductor and RF circuits on top of CMOS (Complementary Metal–Oxide–Semiconductor) wafers. IPD is an enabling technology for advanced SiP. It can be used in the following three approaches to enhance product performance: several solutions to replace discrete components such as Balun, Filter, etc. or to integrate certain passive components and act as interposer, or to replace PWB and act as a substrate of the module.

In addition, we have focused on developing our capabilities in some advanced packaging solutions, such as aCSP (Wafer level chip scale package), flip-chip BGA, Heat-Spreader FCBGA, flip-chip CSP, Hybrid FCCSP (Flip-Chip + W/B), Flip-Chip PiP (Package in Package) and aS 3™ (Advanced Single Sided Substrate). Flip-chip BGA technology replaces wire bonding with wafer bumping for interconnections within the package. Wafer bumping involves the placing of tiny solder balls, instead of wires, on top of dies for connection to substrates. As compared with more traditional packages, which allow input/output connection only on the boundaries of the dies, flip-chip packages

significantly enhance the input/output flow by allowing input/output connection over the entire surface of the dies.

Chip scale packages typically have an area no greater than 1.2 times of the silicon die. For wafer level package, the electrical connections are plated or printed directly onto the wafer itself, resulting in a package very close to the size of the silicon die. Wafer-level packages do not include an interposer so they are unlike substrate-based packages, where the die is usually mounted on an interposer which contains electrical connections in the form of small bumps or balls.

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We provide numerous technologies to meet various customer demands. The following table sets forth our principal advanced packages.

Package Types	Number of Leads	Description	End-Use Applications
Wafer Level Chip Scale Package (aCSP)	6-100	A wafer level chip scale package that can be directly attached to the circuit board. Provides shortest electrical path from the die pad to the circuit board, thereby enhancing electrical performance.	Cellular phones, personal digital assistants, watches, MP3 players, digital cameras and camcorders.
Flip-Chip Chip Scale Package (FC-CSP, a-fcCSP)	16-560	A lightweight package with a small, thin profile that provides better protection for chips and better solder joint reliability than other comparable package types.	RFICs and memory ICs such as digital cameras, DVDs, devices that utilize WiMAX technology, cellular phones, GPS devices and personal computer peripherals.
Flip-Chip PiP (Package in Package) (FC-CSP PiP)	500-980	System In Package for Flip-Chip+Memory die inside with a better electrical performance package types.	Application processor for smartphone, data modern on portable devices.
Flip-Chip BGA	16-2916	Using advanced interconnect technology, the flip-chip BGA package allows higher density of input/output connection over the entire surface of the dies. Designed for high-performance semiconductors that require high density of interconnects in a small package.	High-performance networking, graphics and processor applications.
Hybrid (Flip-Chip and Wire Bonding)	49-608	A package technology which stacks a die on top of a probed good die to integrate ASIC and memory (flash, SRAM and DDR) into one package and interconnects them with wire bonding and molding. This technology suffers from known good die issues (i.e., one bad die will ruin the entire module). Rework is also not an option in hybrid packages.	Digital cameras, smartphones, bluetooth applications and personal digital assistants.
aS3	up to 300	Ultra-thin profile package which is excellent on middle pin count alternative solution;	High I/O and short wire length package solution in high performance

standard BT material and manufacturing equipment; and lower cost via on pad.	requirement.

IC Wirebonding. We provide IC wirebonding, including leadframe-based packages and substrate-based packages. Leadframe-based packages are packaged by connecting the die, using wire bonders, to the leadframe with gold wire or copper wire. As packaging technology improves, the number of leads per package increases. In addition, improvements in leadframe-based packages have reduced the footprint of the package on the circuit board

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and improved the electrical performance of the package. To have higher interconnected density and better electrical performance, semiconductor packages have evolved from leadframe-based packages to substrate-based packages. The key differences of these package types are: the size of the package; the density of electrical connections the package can support; flexibility at lower costs; the thermal and electrical characteristics of the package; and environmentally conscious designs. Substrate-based packages generally employ the BGA design. Whereas traditional leadframe technology places the electrical connection around the perimeter of the package, the BGA package type places the electrical connection at the bottom of the package surface in the form of small bumps or balls. These small bumps or balls are typically distributed evenly across the bottom surface of the package, allowing greater distance between individual leads and higher pin-counts. Our expertise in BGA packages also includes capabilities in stacked-die BGA, which assembles multiple dies into a single package.

3D packaging has recently received a lot of publicity because of the advent of TSV (Through Silicon Via) based chip stacking. Chip stacking has been implemented for many years, albeit without TSVs. Wire bond die is routinely stacked on leadframes as well as BGA substrates. A more recent implementation is the stacking of packages as package on package (PoP) and the more specialized package in package (PiP). ASE has advanced PoP by the invention of aMAPPoP which provides the package interconnects by exposing a molded in solder ball with a laser via. Aside from being cost effective due to block molding, this PoP also has much lower warpage, greatly improving the stacking yield.

The following table sets forth our principal IC wirebonding packages.

Package Types	Number of Leads	Description	End-Use Applications
Advanced Quad Flat No-Lead Package (aQFN)	104-276	aQFN allows for leadless, multi-row and fine-pitch leadframe packaging and is characterized by enhanced thermal and electrical performance. aQFN is a cost-effective packaging solution due to its cost-effective materials and simpler packaging process.	Telecommunications products, wireless local access networks, personal digital assistants, digital cameras, low to medium lead count packaging information appliances.
Quad Flat Package (QFP)/Thin Quad Flat Package (TQFP)	44-256	Designed for advanced processors and controllers, application-specific integrated circuits and digital signal processors.	Multimedia applications, cellular phones, personal computers, automotive and industrial products, hard disk drives, communication boards such as ethernet, integrated services digital networks and notebook computers.
Quad Flat No-Lead Package (QFN)/ Microchip Carrier (MCC)	12-84	QFN, also known as MCC, uses half-encapsulation technology to expose the rear side of the die pad and the tiny fingers, which are used to connect the chip and bonding	Cellular phones, wireless local access networks, personal digital assistant devices and digital cameras.

		wire with printed circuit boards.	
Bump Chip Carrier (BCC)	16-156	BCC packages use plating metal pads to connect with printed circuit boards, creating enhanced thermal and electrical performance.	Cellular phones, wireless local access networks, personal digital assistant devices and digital cameras.

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Package Types	Number of Leads	Description	End-Use Applications
Small Outline Plastic Package (SOP)/Thin Small Outline Plastic Package (TSOP)	8-56	Designed for memory devices including static random access memory, or SRAM, dynamic random access memory, or DRAM, fast static RAM, also called FSRAM, and flash memory devices.	Consumer audio/video and entertainment products, cordless telephones, pagers, fax machines, printers, copiers, personal computer peripherals, automotive parts, telecommunications products, recordable optical disks and hard disk drives.
Small Outline Plastic J-Bend Package (SOJ)	20-44	Designed for memory and low pin-count applications.	DRAM memory devices, microcontrollers, digital analog conversions and audio/video applications.
Plastic Leaded Chip Carrier (PLCC)	28-84	Designed for applications that do not require low-profile packages with high density of interconnects.	Personal computers, scanners, electronic games and monitors.
Plastic Dual In-line Package (PDIP)	8-64	Designed for consumer electronic products.	Telephones, televisions, audio/video applications and computer peripherals.
Plastic BGA	119-1520	Designed for semiconductors which require the enhanced performance provided by plastic BGA, including personal computer chipsets, graphic controllers and microprocessors, application-specific integrated circuits, digital signal processors and memory devices.	Telecommunications products, global positioning systems, notebook computers, disk drives and video cameras.
Stacked-Die BGA	120-1520	Combination of multiple dies in a single package enables package to have multiple functions within a small surface area.	Telecommunications products, local area networks, graphics processor applications, digital cameras and pagers.
Package-on-Package (POP, aMAP POP)	136-904	This technology places one package on top of another to integrate different functionalities while maintaining a compact size. It offers procurement flexibility, low cost of ownership, better total system cost and faster	Cellular phones, personal digital assistants and system boards.

time to market. Designers typically use the topmost package for memory applications and the bottommost package for ASICs. By using this technology, the memory known good die issue can be mitigated and the development cycle time and cost can be reduced.

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Package Types	Number of Leads	Description	End-Use Applications
Land Grid Array (LGA)	10-72	Leadless package which is essentially a BGA package without the solder balls. Based on laminate substrate, land grid array packages allow flexible routing and are capable of multichip module functions.	High frequency integrated circuits such as wireless communications products, computers servers and personal computer peripherals.

Modules. We also offer module assembly services, which combine one or more packaged semiconductors with other components in an integrated module to enable increased functionality, typically using automated surface mount technology, or SMT, machines and other machinery and equipment for system-level assembly. End-use applications for modules include cellular phones, PDAs, wireless LAN applications, Bluetooth applications, camera modules, automotive applications and toys.

Interconnect Materials. Interconnect materials connect the input/output on the semiconductor dies to the printed circuit board. Interconnect materials include substrate, which is a multi-layer miniature printed circuit board, and is an important element of the electrical characteristics and overall performance of semiconductors. We produce substrates for use in our packaging operations.

The demand for higher performance semiconductors in smaller packages will continue to spur the development of advanced substrates that can support the advancement in circuit design and fabrication. As a result, we believe that the market for substrates will grow and the cost of substrates as a percentage of the total packaging process will increase. In the past, substrates we designed for our customers were produced by independent substrate manufacturers. Since 1997, we have been designing and producing a portion of our interconnect materials in-house. In 2013, our interconnect materials operations supplied approximately 29.1% of our consolidated substrate requirements by value.

The following table sets forth, for the periods indicated, the percentage of our packaging revenues accounted for by each principal type of packaging products or services.

	Year Ended December 31,			
	2012		2013	
	(percentage of packaging revenues)			
Advanced packaging(1)	23.6	%	26.7	%
IC Wirebonding(2)	65.9		62.5	
Discrete and other	10.5		10.8	
Total	100.0	%	100.0	%

(1) Includes bumping, flip chip, chip scale and SiP package.

(2) Includes leadframe-based packages such as QFP/TQFP, QFN/MCC and PLCC/PDIP and substrate-based packages, such as various BGA package types and LGA.

Testing Services

We provide a complete range of semiconductor testing services, including front-end engineering testing, wafer probing, final testing of logic/mixed-signal/RF/(2.5D/3D) module SiP/ MEMS/Discrete and other test-related services.

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The testing of semiconductors requires technical expertise and knowledge of the specific applications and functions of the semiconductors tested as well as the testing equipment utilized. We believe that our testing services employ technology and expertise which are among the most advanced in the semiconductor industry. In addition to maintaining different types of testing equipment, which enables us to test a variety of semiconductor functions, we work closely with our customers to design effective testing solutions on multiple equipment platforms for particular semiconductors.

In recent years, complex, high-performance logic/mixed-signal/RF/(2.5D/3D) module SiP/ MEMS semiconductors have accounted for an increasing portion of our testing revenues. As the testing of complex, high-performance semiconductors requires a large number of functions to be tested using more advanced testing equipment, these products generate higher revenues per unit of testing time, as measured in central processing unit seconds.

Front-End Engineering Testing. We provide front-end engineering testing services, including customized software development, electrical design validation, and reliability and failure analysis.

- Customized Software Development. Test engineers develop customized software to test the semiconductors using advanced testing equipment. Customized software, developed on specific test platforms, is required to test the conformity of each particular semiconductor type to its unique functionality and specification.

- Electrical Design Validation. A prototype of the designed semiconductor is subjected to electrical tests using advanced test equipment and customized software. These tests assess whether the prototype semiconductor complies with a variety of different operating specifications, including functionality, frequency, voltage, current, timing and temperature range.

- Reliability Analysis. Reliability analysis is designed to assess the long-term reliability of the semiconductor and its suitability of use for intended applications. Reliability testing can include “burn-in” services, which electrically stress a device, usually at high temperature and voltage, for a period of time long enough to cause the failure of marginal devices.

- Failure Analysis. In the event that the prototype semiconductor does not function to specifications during either the electrical design validation or reliability testing processes, it is typically subjected to failure analysis to determine the cause of the failure to perform as anticipated. As part of this analysis, the prototype semiconductor may be subjected to a variety of analyses, including electron beam probing and electrical testing.

Wafer Probing. Wafer probing is the step immediately before the packaging of semiconductors and involves visual inspection and electrical testing of the processed wafer for defects to ensure that it meets our customers’ specifications. Wafer probing services require expertise and testing equipment similar to that used in final testing, and most of our testers can also be used for wafer probing.

Logic/Mixed-signal/RF/(2.5D/3D) module SiP/Discrete Final Testing. We conduct final tests of a wide variety of logic/mixed-signal/RF/(2.5D/3D) module SiP/ MEMS /discrete semiconductors, with the number of leads or bumps ranging from the single digits to over ten thousand and operating frequencies of over 20 Gbps for digital semiconductors and 6 GHz for radio frequency semiconductors, which are at the high end of the range for the industry. The products we test include semiconductors used for wired, wireless and mobile communications, home entertainment and personal computer applications, as well as a variety of consumer and application-specific integrated circuits for various specialized applications.

Other Test-Related Services. We provide a broad range of additional test-related services, including:

- Electric Interface Board and Mechanical Test Tool Design. Process of designing individualized testing apparatuses such as test load boards, sockets, handler change kits, and probe cards for unique semiconductor devices and packages.

- Program Conversion. Process of converting a program from one test platform to different test platforms to reduce testing costs.

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- Program Efficiency Improvement. Process of optimizing the program code or increasing site count of parallel tests to improve testing throughout.

- Remote Program Debugging. Process of allowing the customer to debug their test program remotely through an internet connection.

- Burn-in Testing. Burn-in testing is the process of electrically stressing a device, usually at high temperature and voltage, for a period of time to simulate the continuous use of the device to determine whether this use would cause the failure of marginal devices.

- Module SiP Testing. We provide module SiP testing through integrated bench solution or automatic test equipment to our customers with a complete solution with respect to finger print sensor module, camera module, wireless connectivity devices, global positioning system devices, personal navigation devices and digital video broadcasting devices.

- Dry Pack. Process which involves heating semiconductors in order to remove moisture before packaging and shipping to customers.

- Tape and Reel. Process which involves transferring semiconductors from a tray or tube into a tape-like carrier for shipment to customers.

Drop Shipment Services. We offer drop shipment services for shipment of semiconductors directly to end users designated by our customers. Drop shipment services are provided mostly in conjunction with logic/mixed-signal/RF/3D IC/discrete testing. We provide drop shipment services to a significant percentage of our testing customers. A substantial portion of our customers at each of our facilities have qualified these facilities for drop shipment services. Since drop shipment eliminates the additional step of inspection by the customer before shipment to the end user, quality of service is a key consideration. We believe that our ability to successfully execute our full range of services, including drop shipment services, is an important factor in maintaining existing customers as well as attracting new customers.

The following table sets forth, for the periods indicated, the percentage of our testing revenues accounted for by each type of testing service.

	Year Ended December 31,			
	2012		2013	
	(percentage of testing revenues)			
Testing Services:				
Front-end engineering testing	2.3	%	2.5	%
Wafer probing	17.2		19.5	
Final testing	80.5		78.0	
Total	100.0	%	100.0	%

Electronic Manufacturing Services. Since our acquisition of a controlling interest in Universal Scientific in February 2010, we also provide integrated solutions for electronics manufacturing services in relation to computers, peripherals, communications, industrial, automotive, and storage and server applications. The key products and services we offer to our customers, for instance, include:

- Computers: motherboards for server & desktop PC; peripheral; port replicator; network attached storage; and technical services;
- Communications: Wi-Fi; WiMAX; SiP and Hybrid SiP;

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- Consumer products: control boards for flat panel devices;
- Automotive electronics: automotive electronic manufacturing services; car LED lighting; regulator/rectifier; and
- Industrial products: point-of-sale systems; smart handheld devices.

Seasonality

See “Item 5. Operating and Financial Review and Prospects—Operating Results and Trend Information—Quarterly Operating Revenues, Gross Profit and Gross Margin.”

Sales and Marketing

Sales and Marketing Presence

We maintain sales and marketing offices in Taiwan, the United States, Austria, Belgium, France, Germany, Singapore, the Philippines, the PRC, Korea, Malaysia, Japan and other countries. We also have sales representatives operating in certain other countries in which we do not have offices. Our sales and marketing offices in Taiwan are located in Hsinchu and Kaohsiung. We conduct marketing research through our customer service personnel and through our relationships with our customers and suppliers to keep abreast of market trends and developments. We also provide advice in the area of production process technology to our major customers planning the introduction of new products. In placing orders with us, our customers specify which of our facilities these orders will go to. Our customers conduct separate qualification and correlation processes for each of our facilities that they use. See “—Qualification and Correlation by Customers.”

Customers

Our five largest customers together accounted for approximately 31.2% and 37.2% of our operating revenues in 2012 and 2013, respectively. No single customer accounted for more than 10% of our operating revenues in 2012 and one single customer accounted for more than 10% of our operating revenues in 2013.

We package and test for our customers a wide range of products with end-use applications in the communications, computing, and consumer electronics/industrial/automotive sectors. The following table sets forth a breakdown of the percentage of our operating revenues generated from our packaging and testing services, for the periods indicated, by the principal end-use applications of the products which we packaged and tested.

	Year Ended December 31,			
	2012		2013	
Communications	51.9	%	54.6	%
Computing	12.2		11.0	
Consumer electronics/industrial/automotive	35.5		34.0	
Other	0.4		0.4	
Total	100.0	%	100.0	%

In addition, we have provided electronic manufacturing services since our acquisition of the controlling interest of Universal Scientific in February 2010. Our electronic manufacturing services provide a wide range of products with end-use applications. The following table sets forth a breakdown of the percentage of our operating revenues generated from our electronic manufacturing services for the periods indicated by the principal end-use applications.

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	Year Ended December 31,			
	2012		2013	
Communications	36.8	%	45.4	%
Computing	24.3		21.7	
Consumer electronics	14.2		11.7	
Industrial	15.5		12.8	
Automotive	7.9		7.4	
Other	1.3		1.0	
Total	100.0	%	100.0	%

We categorize our operating revenues geographically based on the country in which the customer is headquartered. The following table sets forth, for the periods indicated, the percentage breakdown by geographic regions of our operating revenues.

	Year Ended December 31,			
	2012		2013	
America	61.4	%	65.7	%
Taiwan	17.3		14.2	
Asia	11.5		10.8	
Europe	9.8		9.3	
Total	100.0	%	100.0	%

Qualification and Correlation by Customers

Customers generally require that our facilities undergo a stringent qualification process during which the customer evaluates our operations and production processes, including engineering, delivery control and testing capabilities. The qualification process typically takes up to several weeks, but can take longer depending on the requirements of the customer. In the case of our testing operations, after we have been qualified by a customer and before the customer delivers semiconductors to us for testing in volume, a process known as correlation is undertaken. During the correlation process, the customer provides us with sample semiconductors to be tested and either provides us with the test program or requests that we develop a conversion program. In some cases, the customer also provides us with a data log of results of any testing of the semiconductors which the customer may have conducted previously. The correlation process typically takes up to two weeks, but can take longer depending on the requirements of the customer. We believe our ability to provide turnkey services reduces the amount of time spent by our customers in the qualification and correlation process. As a result, customers utilizing our turnkey services are able to achieve shorter production cycles.

Pricing

We price our packaging services and electronic manufacturing services, taking into account the actual costs, with reference to prevailing market prices. We price our testing services primarily on the basis of the amount of time, measured in central processing unit seconds, taken by the automated testing equipment to execute the test programs specific to the products being tested, as well as the cost of the equipment, with reference to prevailing

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market prices. Prices for our packaging, testing and electronic manufacturing services are confirmed at the time orders are received from customers, which is typically several weeks before delivery.

Raw Materials and Suppliers

Packaging

The principal raw materials used in our packaging processes are interconnect materials such as leadframes and substrates, gold wire and molding compound. The silicon die, which is the functional unit of the semiconductor to be packaged, is supplied in the form of silicon wafers. Each silicon wafer contains a number of identical dies. We receive the wafers from the customers or the foundries on a consignment basis. Consequently, we generally do not incur inventory costs relating to the silicon wafers used in our packaging process.

We do not maintain large inventories of leadframes, substrates, gold wire or molding compound, but generally maintain sufficient stock of each principal raw material based on blanket orders and rolling forecasts of near-term requirements received from customers. In addition, several of our principal suppliers dedicate portions of their inventories as reserves to meet our production requirements. However, shortages in the supply of materials experienced by the semiconductor industry have in the past resulted in occasional price adjustments and delivery delays. For example, in the first half of 2000, the industry experienced a shortage in the supply of advanced substrates used in BGA packages, which, at the time, were only available from a limited number of suppliers located primarily in Japan. In addition, recent fluctuations in gold prices have affected the price at which we have been able to purchase our principal raw materials. In order to reduce the adverse impact caused by the price fluctuations of raw materials, we have developed substitute raw materials, such as copper, the cost of which is much cheaper than that of gold. However, we cannot guarantee that we will not experience shortages or price increase in the near future or that we will be able to obtain adequate supplies of raw materials in a timely manner and at a reasonable price or to develop any substitute raw materials. In the event of a shortage and/or price increase, we generally inform our customers and work together to accommodate changes in delivery schedules and/or the price increase of raw materials.

We produce substrates for use in our packaging operations. In 2013, our interconnect materials operations supplied approximately 29.1% of our consolidated substrate requirements by value. See “—Principal Products and Services—Packaging Services—Interconnect Materials.”

As a result of the “Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment,” or RoHS, which became effective on July 1, 2006, we have adjusted our purchases of raw materials and our production processes in order to use raw materials that comply with this legislation for part of our production. This legislation restricts the use in the European Union, or EU, of certain substances the EU deems harmful to consumers, which includes certain grades of molding compounds, solder and other raw materials that are used in our products. Manufacturers of electrical and electronic equipment must comply with this legislation in order to sell their products in an EU member state. Any failure by us to comply with regulatory environmental standards such as Directive 2002/95/EC may have a material adverse effect on our results of operations.

Testing

For the functional and burn-in testing of semiconductors, no other raw materials are needed. However, we often design and outsource the manufacturing of test interface products such as load boards, probe cards and burn-in boards.

Electronic Manufacturing Services

Our manufacturing processes use many raw materials in our electronic manufacturing services. For 2013, raw materials costs accounted for 79.0% of our operating revenues from electronic manufacturing services. Our principal raw materials include, among others, printed circuit boards, integrated chips, ink, semiconductor devices, computer peripherals and related accessories and electronic components. Our principal raw materials varied in the past, depending on the end-use products we provided.

To ensure quality, on-time delivery and pricing competitiveness, we have established both a standardized supplier assessment system and an evaluation mechanism, continued to maintain close working relationships with

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our suppliers and jointly created a stable and sustainable supply chain. In addition, we adjusted the procurement strategy in line with industry trends as well as the nature of raw materials and decentralized the sources of raw materials to lower our supply concentration risk. However, we cannot assure you that we will not experience any shortages or price increases in the near future. See “Item 3. Key Information—Risk Factors—Risks Relating to Our Business—Our revenues and profitability may decline if we are unable to obtain adequate supplies of raw materials in a timely manner and at a reasonable price.”

Equipment

Packaging

The most important equipment used in the semiconductor packaging process is the wire bonder. Wire bonders connect the input/output terminals on the silicon die using extremely fine gold wire to leads on leadframes or substrates. Typically, a wire bonder may be used, with minor modifications, for the packaging of different products. We purchase our wire bonders principally from Kulicke & Soffa Industries Inc. and others. As of February 28, 2014, we operated an aggregate of 15,484 wire bonders, of which 15,248 were fine-pitch wire bonders. As of the same date, 27 of the wire bonders operated by us were consigned by customers and 2 were leased under operating leases. For the packaging of certain types of substrate-based packages, die bonders are used in place of wire bonders. We purchase our die bonders principally from ASM Assembly Automation Ltd., Esec AG, and Hitachi High Technologies Corporation. The number of bonders at a given facility is commonly used as a measure of the packaging capacity of the facility. In addition to bonders, we maintain a variety of other types of packaging equipment, such as wafer grind, wafer mount, wafer saw, automated molding machines, laser markers, solder plate, pad printers, dejunkers, trimmers, formers, substrate saws and scanners. We purchase our molding machines principally from ASM Assembly Automation Ltd., Towa Corporation and Fico B.V.

Testing

Testing equipment is the most capital intensive component of the testing process. We generally seek to purchase testers from different suppliers with similar functionality and the ability to test a variety of different semiconductors. We purchase testers from major international manufacturers, including Advantest Ltd., Teradyne, Inc., LTX-Credence Corporation, Seiko Epson and Tokyo Electron Limited. Upon acquisition of new testers, we install, configure, calibrate, perform burn-in diagnostic tests on and establish parameters for the testers based on the anticipated requirements of existing and potential customers and considerations relating to market trends. As of February 28, 2014, we operated an aggregate of 3,139 testers, of which 777 were consigned by customers and 69 were leased under operating leases. In addition to testers, we maintain a variety of other types of testing equipment, such as automated handlers and probers (special handlers for wafer probing), scanners, reformers and computer workstations for use in software development. Each tester may be attached to a handler or prober. Handlers attach to testers and transport individual packaged semiconductor to the tester interface. Probers similarly attach to the tester and align each individual die on a wafer with the interface to the tester.

For the majority of our testing equipment, we often base our purchases on prior discussions with our customers about their forecast requirements. The balance consists of testing equipment on consignment from customers and which are dedicated exclusively to the testing of these customers’ specific products.

Test programs, which consist of the software that drives the testing of specific semiconductors, are written for a specific testing platform. We sometimes perform test program conversions that enable us to test semiconductors on multiple test platforms. This portability between testers enables us to allocate semiconductors tested across our available test capabilities and thereby improve capacity utilization rates. In cases where a customer requires the testing of a semiconductor product that is not yet fully developed, the customer may provide computer workstations to us to

test specific functions. In cases where a customer has specified testing equipment that was not widely applicable to other products which we test, we have required the customer to furnish the equipment on a consignment basis.

Electronic Manufacturing Services

The Surface Mount Technology or SMT assembly line is the key facility of our electronic manufacturing operations, and generally includes a printer and one or two high-speed mounters and/or a multi-function mounter. The SMT assembly process primarily consists of the following three manufacturing steps: (i) solder paste stencil

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printing, (ii) component placement and (iii) solder reflow. High-speed SMT assembly systems offer both economical and technical advantages which may reduce both production cost and time while meeting quality requirements. Thus, SMT has become the most popular assembly method for sophisticated electronic devices. We had 111 SMT lines as of February 28, 2014.

Intellectual Property

As of February 28, 2014, we held 1,937 Taiwan patents, 798 U.S. patents, 663 PRC patents and 15 patents in other countries related to various semiconductor packaging technologies and invention, utility and design on our electronic manufacturing services. In addition, we also filed several trademarks applications in Taiwan, the United States, China and European Union. For example, “ASE”, “aCSP”, “ a-EASI”, “a-fcCSP”, “aQFN” “a-QFN”, “a-TiV”, “iSiP” and “iWLP” ha registered in Taiwan.

We have also entered into various non-exclusive technology license agreements with other companies involved in the semiconductor manufacturing process, including Tessera Inc., Fujitsu Limited, Flip Chip International, L.L.C., Mitsui High-Tec, Inc., Infineon Technologies AG, Siliconware Precision Industries Co., Ltd., and STATS Chippac Ltd. The technology we license from these companies includes solder bumping, redistribution, ultra CSP assembly, advanced QFN assembly, wafer level packaging and other technologies used in the production of package types, such as BCC, flip-chip BGA, film BGA, aQFN, Package-in-Package (PiP) and chip embedding. The license agreement with Tessera Inc. will not expire until the expiration of the Tessera Inc. patents licensed by the agreement. For information regarding our intellectual property arrangements with Tessera Inc., see “Item 8. Financial Information— Consolidated Statements and Other Financial Information— Legal Proceedings.” Our license agreements with Flip Chip International, L.L.C. and Siliconware Precision Industries Co., Ltd. will not expire until the expiration of the patents licensed by the agreement. Our one license agreement with Infineon Technologies AG will expire on November 5, 2017, and another license agreement with Infineon Technologies AG will remain effect until expiration of the Infineon's patents licensed by the agreement. Our license agreement with Mitsui High-Tec, Inc. renews automatically each year, and our license agreement with Fujitsu Limited renews automatically each year unless the parties to the agreement agree otherwise. Our license agreement with STATS Chippac Ltd. will expire on December 31, 2016.

Our success depends in part on our ability to obtain, maintain and protect our patents, licenses and other intellectual property rights, including rights under our license agreements with third parties.

Quality Control

We believe that our advanced process technology and reputation for high quality and reliable services have been important factors in attracting and retaining leading international semiconductor companies as customers for our services and/or products. We maintain a quality control staff at each of our facilities. Our quality control staff typically includes engineers, technicians and other employees who monitor the processes in order to ensure high quality. Our quality assurance systems impose strict process controls, statistical in-line monitors, supplier control, data review and management, quality controls and corrective action systems. Our quality control employees operate quality control stations along production lines, monitor clean room environments and follow up on quality through outgoing product inspection and interaction with customer service staff. We have established quality control systems which are designed to ensure high quality products/service to customers, high testing reliability and high production yields at our facilities. We also have established an environmental management system in order to ensure that we can comply with the environmental standards of our customers and the countries within which they operate. See “—Raw Materials and Suppliers—Packaging.” In addition, our facilities have been qualified by all of our major customers after satisfying stringent quality standards prescribed by these customers.

Our packaging and testing operations are undertaken in clean rooms where air purity, temperature and humidity are controlled. To ensure stability and integrity of our operations, we maintain clean rooms at our facilities that meet U.S. Federal Standard 209E class 1,000, 10,000 and 100,000 standards.

ISE Labs' testing facilities in Fremont, California, are considered suitably equipped by the Defense Logistics Agency to perform the MIL-STD-883 tests on monolithic microcircuits in accordance with the requirements of military specification MIL-PRF-38535.

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We have also obtained many certifications on our packaging, testing and interconnect materials facilities. Some of these certifications are required by some semiconductor manufacturers as a threshold indicator of company's quality control standards or needed by many countries in connection with sales of industrial products. The table below sets forth the certifications we have for our packaging, testing and interconnect materials.

Location	ISO/TS 16949(1)	ISO 9001(2)	ISO 14001(3)	ISO 17025(4)	ISO 14064-1(5)	IECQ HSPM QC080000(6)	Sony Green(7)	TOSHMS OHSAS 18001(8)	and SA8000(9)	ISO 50001(10)
Taiwan	ü	ü	ü	ü	ü	ü	ü	ü	ü	ü
Shanghai, PRC	ü	ü	ü		ü	ü	ü	ü		
Suzhou/Kunshan/Weihai/ Wuxi, PRC	ü	ü	ü		ü	ü	ü	ü		
Korea	ü	ü	ü			ü	ü	ü		
Japan	ü	ü	ü			ü	ü			
Malaysia	ü	ü	ü			ü	ü			
Singapore	ü	ü	ü					ü		
California		ü	ü	ü						

(1) ISO/TS16949 standards were originally created by the International Automotive Task Force in conjunction with the International Standards Organization, or ISO. These standards provide for continuous improvement with an emphasis on the prevention of defects and reduction of variation and waste in the supply chain.

(2) ISO 9001 quality standards, set by the ISO, are related to quality management systems and designed to help organizations ensure that they meet the needs of customers and other stakeholders while meeting statutory and regulatory requirements related to the product.

(3) ISO 14001 sets out the criteria for an environmental management system. It can be used by any organization that wants to improve resource efficiency, reduce waste and drive down costs.

(4) ISO 17025 is the main ISO standard used by testing and calibration laboratories.

(5) ISO 14064-1 standard is part of the ISO 14000 series of International Standards for environmental management. The ISO 14064 standard provides governments, businesses, regions and other organizations with a complementary set of tools for programs to quantify, monitor, report and verify greenhouse gas emissions.

(6) IECQ HSPM QC080000 is a certification designed to manage, reduce and eliminate hazardous substances.

(7) "Sony Green Partner" indicates our compliance with the "Sony Green Package" standard requirements.

(8) OHSAS 18001 is a set of standards designed upon collaboration with occupational health and safety experts and now offered by many certification organizations as an indication of compliance with certain standards for occupational health and safety.

(9) TOSHMS is the Taiwan Occupational and Health Management System. SA8000 is the most widely recognized global standard for managing human rights in the workspace.

(10) ISO50001 is a standard for an energy management system. It can be used by any organization that wants to reduce energy costs and use energy more efficiently.

Since our acquisition of a controlling interest in Universal Scientific in February 2010, we began providing electronics manufacturing services, for which we also have strict process controls. The table below sets forth the certifications we have obtained for our electronics manufacturing services facilities.

Location	ISO/TS 16949	ISO 9001	ISO 14001	ISO 14064-1	IECQ QC 080000	TL 9000(1)	OHSAS 18001	ISO 50001
Taiwan	ü	ü	ü	ü	ü		ü	
Shenzhen, PRC		ü	ü	ü	ü	ü	ü	
Shanghai, PRC	ü	ü	ü	ü	ü	ü	ü	ü

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Location	ISO/TS 16949	ISO 9001	ISO 14001	ISO 14064-1	IECQ QC 080000	TL 9000(1)	OHSAS 18001	ISO 50001
Kunshan, PRC	ü	ü	ü	ü	ü	ü	ü	
Mexico	ü	ü	ü		ü			

(1) TL 9000 quality management system sets forth the supply chain quality requirements of the global communications industry.

In addition, we have received various vendor awards from our customers for the quality of our products and services.

Competition

We compete in the highly competitive independent semiconductor packaging and testing markets. We face competition from a number of sources, including other independent semiconductor packaging and testing companies. More importantly, we compete for the business of integrated device manufacturers with in-house packaging and testing capabilities and fabless semiconductor design companies with their own in-house testing capabilities. Some of these integrated device manufacturers have commenced, or may commence, in-house packaging and testing operations in Asia. Substantially all of the independent packaging and testing companies that compete with us have established operations in Taiwan.

Integrated device manufacturers that use our services continuously evaluate our performance against their own in-house packaging and testing capabilities. These integrated device manufacturers may have access to more advanced technologies and greater financial and other resources than we do. We believe, however, that we can offer greater efficiency at lower cost while maintaining equivalent or higher quality for several reasons. First, as we benefit from specialization and economies of scale by providing services to a large base of customers across a wide range of products, we are better able to reduce costs and shorten production cycles through high capacity utilization and process expertise. Second, as a result of our customer base and product offerings, our equipment generally has a longer useful life. Third, as a result of the continuing reduction of investments in in-house packaging and testing capacity and technology at integrated device manufacturers, we are better positioned to meet their advanced packaging and testing requirements on a large scale.

In addition, we have provided electronic manufacturing services since our acquisition of a controlling interest in Universal Scientific in February 2010. We face significant competition from other electronics manufacturing services providers, such as Hon Hai Precision Ind. Co., Ltd, with comprehensive integration, wide geographic coverage and large production capabilities that enable them to achieve economies of scale. We believe, however, that we can still achieve satisfactory performance in the market given that we have been able to provide products with high quality and we are capable of designing new products by cooperating with our customers.

Environmental Matters

Our operations of packaging, interconnect materials and electronic manufacturing services generate environmental wastes, including gaseous chemical, liquid and solid industrial wastes. We have installed various types of anti-pollution equipment for the treatment of liquid and gaseous chemical waste generated at our facilities. We believe that we have adopted adequate anti-pollution measures for the effective maintenance of environmental protection standards that are consistent with industry practice in the countries in which our facilities are located. In addition, we believe we are in compliance in all material respects with present environmental laws and regulations applicable to our operations and facilities.

ASE Inc. Kaohsiung facility

Our operations involving wafer-level process where nickel is used and require wastewater treatment at our K7 Plant have been subject to scrutiny by the Kaohsiung City Environmental Protection Bureau and the Kaohsiung District Prosecutors office as a result of an alleged wastewater disposal violation that occurred on October 1, 2013.

On December 20, 2013, the Kaohsiung City Environmental Protection Bureau fined us NT$110.1 million (US$3.7 million) and ordered the Company to suspend the operations at our K7 Plant's wafer-level process where

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nickel is used and ordered us to implement improvement measures on the K7 Plant's wafer-level process where nickel is used. Moreover, on January 3, 2014, the Kaohsiung District Prosecutors Office indicted the Company for alleged criminal violation of the ROC Waste Disposal Act. In April 2014, in response to the Kaohsiung City Environmental Protection Bureau's examination processes for the resumption of our operations at the K7 Plant wafer-level process where nickel is used, we submitted a revised improvement plan to the Kaohsiung City Environmental Protection Bureau for their review. Upon approval of our revised improvement plan by the Kaohsiung City Environmental Protection Bureau, we will commence a series of trial runs at our K7 Plant wafer-level process where nickel is used followed by full resumption of operations. However, whether and when our improvement plan will be approved so that the suspension order will be lifted by the Kaohsiung City Environmental Protection Bureau is currently unknown. While we are defending the proceedings vigorously, the ultimate outcome of the matter is uncertain, and the amount of possible loss, if any, is currently not estimable. Any future suspension of operations at K7 Plant or other plants at our Kaohsiung facility may adversely affect our business, financial condition, results of operations and cash flows. See "Item 3. Key Information—Risk Factors—Risks Relating to Our Business—Any environmental claims or failure to comply with any present or future environmental regulations, as well as any fire or other industrial accident, may require us to spend additional funds and may materially and adversely affect our financial condition and results of operations," "Item 4. Information on the Company — Property, Plants and Equipment" and "Item 8. Financial Information—Consolidated Statements and Other Financial Information— Legal Proceedings."

Our estimated environmental capital expenditures for 2014 will be approximately US$160.9 million. In order to demonstrate our commitment to fulfill our corporate social responsibility towards environmental protection, in December 2013, our board of directors approved contributions to environmental protection efforts in Taiwan in a total amount of not less than NT$3,000.0 million (US$100.6 million), to be made in the next 30 years.

ASE Inc. Chung Li facility

On December 14, 2013, inspectors from the Taoyuan County Environmental Protection Bureau determined that wastewater from three wafer saw machines at Chung Li No.1 Testing Site could potentially be directly discharged into a sedimentation tank without permitted proper treatments which is in violation of the ROC Water Pollution Control Act. The Taoyuan County Environmental Protection Bureau ordered the shutdown of the three wafer saw machines. This incident did not have an material impact on our operations at our Chung Li facility.

Insurance

We have insurance policies covering property damage and damage to our production facilities, buildings and machinery. In addition, we have insurance policies covering our public and product liabilities. Significant damage to any of our production facilities would have a material adverse effect on our results of operations.

We are not insured against the loss of key personnel.

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ORGANIZATIONAL STRUCTURE

The following chart illustrates our corporate structure including our principal manufacturing subsidiaries as of March 31, 2014. The following chart does not include wholly-owned intermediate holding companies, internal trading companies and those companies without active operations.

Our Consolidated Subsidiaries

ASE Test Taiwan

ASE Test Taiwan, which was acquired in 1990, is our wholly-owned subsidiary. It is incorporated in Taiwan and is engaged in the testing of integrated circuits.

ASE Test Malaysia

ASE Test Malaysia, which was established in 1991, is our wholly-owned subsidiary. It is incorporated in Malaysia and is engaged in the packaging and testing of integrated circuits.

ISE Labs

ISE Labs is our wholly-owned subsidiary. It is a semiconductor company specializing in front-end engineering testing that is incorporated in the United States and has its principal facilities located in Fremont, California. We acquired 70.0% of the outstanding shares of ISE Labs in 1999 through ASE Test, and increased our holding to 100.0% through purchases made in 2000 and 2002.

ASE Singapore Pte. Ltd.

ASE Singapore Pte. Ltd., our wholly-owned subsidiary, is incorporated in Singapore and provides packaging and testing services. We acquired ASE Singapore Pte. Ltd., which was wholly-owned by ISE Lab, through our acquisition of ISE Lab in 1999. In January 2011, ASE Singapore II Pte. Ltd. (formerly, EEMS Test Singapore) merged into ASE Singapore Pte. Ltd. after we acquired ASE Singapore II Pte. Ltd. in August 2010.

ASE Electronics

ASE Material was established in 1997 as an ROC company for the production of interconnect materials, such as substrates, used in the packaging of semiconductors. We initially held a majority stake in ASE Material, but acquired the remaining equity by means of a merger of ASE Material with and into us in August 2004. In August 2006, we spun off the operations originally conducted through ASE Material into our wholly-owned subsidiary ASE Electronics. ASE Electronics currently supplies our packaging operations with a substantial portion of our substrate requirements. The facilities of ASE Electronics are primarily located in the Nantze Export Processing Zone near our packaging and testing facilities in Kaohsiung, Taiwan.

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ASE Chung Li and ASE Korea

In July 1999, we purchased Motorola's Semiconductor Products Sector operations in Chung Li, Taiwan and Paju, South Korea for the packaging and testing of semiconductors, thereby forming ASE Chung Li and ASE Korea. In August 2004, we acquired the remaining outstanding shares of ASE Chung Li that we did not already own and merged ASE Chung Li into us.

ASE Japan

ASE Japan, which we acquired from NEC Electronics Corporation in May 2004, is our wholly-owned subsidiary. It is incorporated in Japan and is engaged in the packaging and testing of semiconductors.

ASE Shanghai

ASE Shanghai was established in 2001 as a wholly-owned subsidiary of ASE Inc. and began operations in June 2004. ASE Shanghai primarily manufactures and supplies interconnect materials for our packaging operations.

ASESH AT

We acquired 100.0% of GAPT, now known as ASESH AT, in January 2007 for a purchase price of US$60.0 million. ASESH AT is a PRC company based in Shanghai, China that provides packaging and testing services for a wide range of semiconductors.

ASEN

In September 2007, we acquired 60.0% of ASEN, formerly known as NXP Semiconductors Suzhou Ltd., from NXP Semiconductors for a purchase price of US$21.6 million. NXP Semiconductors holds the remaining 40.0% of ASEN. ASEN is based in Suzhou, China and is engaged in semiconductor packaging and testing.

ASEWH

In May 2008, we acquired 100.0% of the shares of ASEWH from Aimhigh Global Corp. and TCC Steel. ASEWH is based in Weihai, Shandong, China and is engaged in semiconductor packaging and testing.

ASEKS

ASEKS was set up in 2004 and began operating in 2010. ASEKS is based in Kunshan, China and is engaged in semiconductor packaging and testing.

Wuxi Tongzhi

In May 2013, we, through our subsidiary ASESH AT, acquired 100.0% of the shares of Wuxi Tongzhi from Toshiba Semiconductor (Wuxi) Co, Ltd. Wuxi Tongzhi is based in Wuxi, China and is engaged in semiconductor packaging and testing.

Universal Scientific Group

Universal Scientific is incorporated in the ROC and provides electronic manufacturing services in relation to computers, consumer electronics, communications, industrial and automotive. Its subsidiaries include, among others,

Universal Scientific Shanghai, Universal Global Scientific Industrial Co. Ltd., or UGTW, Universal Electronics (Shenzhen) Co. Ltd., or USISZ, Universal Global Technology (Kunshan) Co. Ltd., or UGKS, Universal Scientific Industrial De Mexico S.A. DE C.V., or USI Mexico, and UGJQ which was established in September 2013.

We purchased 22.6% of the outstanding shares of Universal Scientific in 1999. We subsequently increased our holding to 23.3% in 2000. As of December 31, 2009, we held approximately 18.1% of Universal Scientific's outstanding equity shares, which allowed us to exercise significant influence over Universal Scientific and therefore accounted for this investment by the equity method.

In February 2010, we, along with our two subsidiaries, J&R Holding Limited and ASE Test, through a cash and stock tender offer, acquired 641,669,316 common shares of Universal Scientific at NT$21 per share, amounting to

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NT$13,475.1 million in total, resulting in our controlling ownership over Universal Scientific. As a result, Universal Scientific became our subsidiary. The shares of Universal Scientific were delisted from the Taiwan Stock Exchange on June 17, 2010, which were previously listed under the symbol “2350”. In August 2010, we acquired additional 222,243,661 shares of Universal Scientific through another tender offer at NT$21 per share, amounting to NT$4,667.1 million in total. We owned 99.2% of the outstanding common shares of Universal Scientific as of March 31, 2014.

In February 2012, Universal Scientific Shanghai completed its IPO on the Shanghai Stock Exchange. Total proceeds from the IPO was approximately RMB811.7 million prior to deducting underwriting discounts and commissions. As of March 31, 2014, we indirectly held 88.6% of the total outstanding shares of Universal Scientific Shanghai through our subsidiaries Universal Scientific and ASE Shanghai.

PROPERTY, PLANTS AND EQUIPMENT

We operate a number of packaging, testing and electronic manufacturing facilities in Asia and the United States. Our facilities provide varying types or levels of services with respect to different end-product focus, customers, technologies and geographic locations. With our diverse facilities we are able to tailor our packaging, testing and electronic manufacturing solutions closely to our customers’ needs. The following table sets forth the location, commencement of operation, primary use, approximate floor space and ownership of our principal facilities as of February 28, 2014.

Facility	Location	Commencement of Operation	Primary Use	Approximate Floor Space (in sq. ft.)	Owned or Leased
ASE Inc.	Kaohsiung, ROC	March 1984	Our primary packaging facility, which offers complete semiconductor manufacturing solutions in conjunction with ASE Test Taiwan and foundries located in Taiwan. Focuses primarily on advanced packaging services, including flip-chip, wafer bumping and fine-pitch wire bonding.	4,383,000	Land: leased Buildings: owned and leased
	Chung Li, ROC	Acquired in July 1999	An integrated packaging and testing facility that specializes in semiconductors for communications and consumer applications.	1,788,000	Land and buildings: owned
	Nantou, ROC	April 2011	Our facility that provides packaging services.	108,000	Land and buildings: leased
ASE Test Taiwan	Kaohsiung, ROC	Acquired in April 1990	Our primary testing facilities, which offer	896,000	Land: leased Buildings:

	complete semiconductor manufacturing solutions in conjunction with ASE Inc.’s facility in Kaohsiung and foundries located in Taiwan. Focuses primarily on advanced logic/mixed-signal/RF/3D IC testing for integrated device manufacturers, fabless design companies and system companies.	owned and leased

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Facility	Location	Commencement of Operation	Primary Use	Approximate Floor Space (in sq. ft.)	Owned or Leased
	Chung Li, ROC	October 2001	Our primary wafer probing testing facilities.	116,000	Land and building: leased
ASE Test Malaysia	Penang, Malaysia	February 1991	An integrated packaging and testing facility that focuses primarily on the requirements of integrated device manufacturers.	828,000	Land: leased Buildings: owned
ASE Korea	Paju, Korea	Acquired in July 1999	An integrated packaging and testing facility that specializes in semiconductors for radio frequency, sensor and automotive applications.	810,000	Land and buildings: owned
ISE Labs	California, USA Texas, USA	Acquired in May 1999	Front-end engineering and final testing facilities located in northern California in close proximity to some of the world's largest fabless design companies. Testing facilities located in close proximity to integrated device manufacturers and fabless companies in Texas.	96,000	Land and buildings: owned and leased
ASE Singapore	Singapore	Acquired in May 1999	An integrated packaging and testing facility that specializes in semiconductors for communication, computers and consumer applications.	282,000	Land: leased Buildings: owned and leased
ASE Shanghai	Shanghai, China	June 2004	Design and production of semiconductor packaging materials.	1,431,000	Land: leased Buildings: owned
ASE Japan	Takahata and Chiba, Japan	Acquired in May 2004	An integrated packaging and testing	415,000	Land and buildings:

			facility that specializes in semiconductors for cellular phone, household appliance and automotive applications.		leased
ASE Electronics	Kaohsiung, ROC	August 2006	Facilities for the design and production of interconnect materials such as substrates used in the packaging of semiconductors.	463,000	Land: leased Buildings: owned
ASESH AT	Shanghai, China	Acquired in January 2007	An integrated packaging and testing facility that specializes in semiconductors for communications and consumer applications.	909,000	Land: leased Buildings: owned

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Facility	Location	Commencement of Operation	Primary Use	Approximate Floor Space (in sq. ft.)	Owned or Leased
ASEN	Suzhou, China	Acquired in September 2007	An integrated packaging and testing facility that specializes in communication applications.	433,000	Land: leased Buildings: owned
ASEWH	Shandong, China	Acquired in May 2008	An integrated packaging and testing facility that specializes in semiconductors for communications, computing and consumer applications.	717,000	Land: leased Buildings: owned
ASEKS	Kunshan, China	July 2010	An integrated packaging and testing facility that specializes in semiconductors for communications and consumer applications.	1,489,000	Land: leased Buildings: owned
Wuxi Tongzhi	Wuxi, China	Acquired in May 2013	An integrated packaging and testing facility that specializes in semiconductors for MP3, Vehicle, household appliance and communications applications.	78,000	Land and buildings: leased
Universal Scientific	Nantou, ROC	Acquired in February 2010	The parent company of Universal Scientific Group, engages in research and development activities for various electronic products and components.	912,000	Land: owned Buildings: owned
USI Mexico	Guadalajara, Mexico	Acquired in February 2010	Manufacturing site, which offer Motherboard manufacture and system assembly.	334,000	Land: owned Buildings: owned
USISZ	Shenzhen, China	Acquired in February 2010	Manufacturing site, design, manufacture and marketing of motherboards, electronic components, accessories and related products in China.	787,000	Land: leased Buildings: owned
Universal Scientific Shanghai	Shanghai, China	Acquired in February 2010	Manufacturing site, design, manufacture and marketing of motherboards, electronic components, accessories and related products in China.	680,000	Land: leased Buildings: owned and leased
UGKS	Kunshan, China	August 2011	Manufacturing site, design, manufacture and marketing of	388,000	Land: leased Buildings: leased

			motherboards, electronic components, accessories and related products in China.		
UGTW	Nantou, ROC	February 2010	Design, manufacture and marketing of electronic components, accessories and related products.	507,000	Buildings: leased
UGJQ	Shanghai, China	Established in September 2013	Design, manufacture and marketing of motherboards, electronic components, accessories and related products in China.	364,000	Land: leased Buildings: leased

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Our major leased property in Kaohsiung consists primarily of leases of land in the Kaohsiung Nantze Export Processing Zone between ASE Inc. and ASE Test Taiwan, as the lessees, and the Export Processing Zones Administration, or the EPZA, under the Ministry of Economic Affairs. The leases have ten-year terms that will expire in January 2023. No sublease or lending of the land is allowed. The EPZA has the right to adjust the rental price in the event the government revalues the land. The leases are typically renewable with three-month notice prior to the termination date.

ASE Inc. Kaohsiung Facility

On December 20, 2013, the Kaohsiung City Environmental Protection Bureau fined us NT$110.1 million (US$3.7 million) and ordered the Company to suspend the operations at our K7 Plant's wafer-level process where nickel is used and ordered us to implement improvement measures on the K7 Plant's wafer-level process where nickel is used. In April 2014, in response to the Kaohsiung City Environmental Protection Bureau's examination processes for the resumption of our operations at the K7 Plant wafer-level process where nickel is used, we submitted a revised improvement plan to the Kaohsiung City Environmental Protection Bureau for their review. Upon approval of our revised improvement plan by the Kaohsiung City Environmental Protection Bureau, we will commence a series of trial runs at our K7 Plant wafer-level process where nickel is used followed by full resumption of operations. However, whether and when our improvement plan will be approved so that the suspension order will be lifted by the Kaohsiung City Environmental Protection Bureau is currently unknown. While we are defending the proceedings vigorously, the ultimate outcome of the matter is uncertain, and the amount of possible loss, if any, is currently not estimable. Any future suspension of operations at K7 Plant or other plants at our Kaohsiung facility may adversely affect our business, financial condition, results of operations and cash flows. See "Item 3. Key Information—Risk Factors—Risks Relating to Our Business—Any environmental claims or failure to comply with any present or future environmental regulations, as well as any fire or other industrial accident, may require us to spend additional funds and may materially and adversely affect our financial condition and results of operations," "Item 4. Information on the Company — Property, Plants and Equipment" and "Item 8. Financial Information— Consolidated Statements and Other Financial Information— Legal Proceedings."

ASE Inc. Chung Li facility

On December 14, 2013, inspectors from the Taoyuan County Environmental Protection Bureau determined that wastewater from three wafer saw machines at Chung Li No.1 Testing Site could potentially be directly discharged into a sedimentation tank without permitted proper treatments which is in violation of the ROC Water Pollution Control Act. The Taoyuan County Environmental Protection Bureau ordered the shutdown of the three wafer saw machines. This incident did not have an material impact on our operations at our Chung Li facility.

For information on the aggregate capacity of our facilities we operate, see "—Business Overview—Equipment."

Item 4A. Unresolved Staff Comments

None.

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Item 5. Operating and Financial Review and Prospects

OPERATING RESULTS AND TREND INFORMATION

The following discussion of our business, financial condition and results of operations should be read in conjunction with our consolidated financial statements, which are included elsewhere in this annual report. This discussion contains forward-looking statements that reflect our current views with respect to future events and financial performance. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of any number of factors, such as those set forth under “Item 3. Key Information—Risk Factors” and elsewhere in this annual report. See “Special Note Regarding Forward-Looking Statements.”

Overview

We offer a broad range of semiconductor packaging, testing services and we also offer electronic manufacturing services since our acquisition of a controlling interest in Universal Scientific in February 2010. In addition to offering each service separately, we also offer turnkey services, which consist of the integrated packaging, testing and direct shipment of semiconductors to end users designated by our customers and solution-based proactive original design manufacturing, or ODM, with our customers. In addition, we started generating revenues from our real estate business since 2010. Our operating revenues increased from NT$193,972.4 million in 2012 to NT$219,862.4 million (US$7,370.5 million) in 2013.

Discussed below are several factors that have had a significant influence on our financial results in recent years.

Pricing and Revenue Mix

We price our services taking into account the actual costs involved in providing these services, with reference to prevailing market prices. The majority of our prices and revenues are denominated in U.S. dollars. Any significant fluctuation in exchange rates, especially between NT dollars and U.S. dollars, will affect our costs and, in turn, our revenues.

In the case of semiconductor packaging, the cost of the silicon die, typically the most costly component of the packaged semiconductor, is usually not reflected in our costs (or revenues) since it is generally supplied by our customers on a consignment basis.

The semiconductor industry is characterized by a general trend towards declining prices for products and services of a given technology over time. In addition, during periods of intense competition and adverse conditions in the semiconductor industry, the pace of this decline may be more rapid than in other years. The average selling prices of our packaging and testing services have experienced sharp declines during such periods as a result of intense price competition from other independent packaging and testing companies that attempt to maintain high capacity utilization levels in the face of reduced demand.

Declines in average selling prices have been partially offset historically by changes in our revenue mix, and typically the selling price is largely dependable on the complexity of the services. In particular, revenues derived from packaging more advanced package types, such as flip-chip BGA, higher density packages with finer lead-to-lead spacing, or pitch, and testing of more complex, high-performance semiconductors have increased as a percentage of total revenues. We intend to continue to focus on packaging more advanced package types, such as bumping, flip-chip BGA and SiP, developing and offering new technologies in packaging and testing services and expanding our capacity to achieve economies of scale, as well as improving production efficiencies for older technologies, in order to mitigate the effects of declining average selling prices on our profitability.

Our profitability for a specific package type does not depend linearly on its average selling price. Some of our more traditional package types, which typically have low average selling prices, may well command steadier and sometimes higher margins than more advanced package types with higher average selling prices.

High Fixed Costs

Our operations, in particular our testing operations, are characterized by relatively high fixed costs. We expect to continue to incur substantial depreciation and other expenses especially from our acquisitions of packaging and testing equipment and facilities. Our profitability depends in part not only on absolute pricing levels for our

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products/services, but also on utilization rates on equipment, commonly referred to as “capacity utilization rates.” In particular, increases or decreases in our capacity utilization rates could have a significant effect on gross margins since the unit cost of our products and/or services generally decreases as fixed costs are allocated over a larger number of units. The capacity utilization rates of the machinery and equipment installed at our production facilities typically depend on factors such as the volume and variety of products, the efficiency of our operations in terms of the loading and adjustment of machinery and equipment for different products, the complexity of the different products to be packaged or tested, the amount of time set aside for the maintenance and repair of the machinery and equipment, and the experience and schedule of work shifts of operators.

In 2012 and 2013, our depreciation, amortization and rental expense included in operating costs as a percentage of operating revenues was 11.4% and 11.1%, respectively. The decrease in depreciation, amortization and rental expense as a percentage of operating revenues in 2013 compared to 2012 was primarily a result of an increase in our revenues. We begin depreciating our equipment when the machinery is placed into service. There may sometimes be a time lag between when our equipment is available for use and when it achieves high levels of utilization. In periods of depressed industry conditions, such as the fourth quarter of 2008, we experienced lower than expected demand from customers, resulting in an increase in depreciation relative to operating revenues. In particular, the capacity utilization rates for our testing equipment are more severely affected during an industry downturn as a result of a decrease in outsourcing demand from integrated device manufacturers, which typically maintain larger in-house testing capacity than in-house packaging capacity.

In addition to purchasing testers, we also lease a portion of our testers, which we believe allows us to better manage our capacity utilization rates and cash flow. Since leased testers can be replaced with more advanced testers upon the expiration of the lease, we believe that these operating leases have enabled us to improve our capacity utilization rates by allowing us to better align our capacity with changes in equipment technology and the needs of our customers. For more information about our testers, including the number of testers under lease, see “Item 4. Information on the Company—Business Overview—Equipment—Testing.”

Raw Material Costs

Substantially all of our raw material costs are accounted for by packaging, the production of interconnect materials and electronic manufacturing services. In particular, our electronic manufacturing services acquired in 2010 require more significant quantities of raw materials than our packaging and production of interconnect materials. In 2012 and 2013, raw material cost as a percentage of our operating revenues was 45.3% and 45.6%, respectively.

We have developed copper wire to gradually replace gold wire in the packaging processes in order to benefit from the lower material cost of copper. However, gold wire is still one of the principal raw materials we use in our packaging processes, and the recent volatility in the price of gold has affected our operating costs. In 2013, the spot rate for gold fluctuated from approximately US$1,192 per ounce to approximately US$1,694 per ounce according to the statistics published by The London Bullion Market Association. It may be difficult for us to adjust our average selling prices to account for fluctuations in the price of gold. We expect that gold wire will continue to be an important raw material for us and we therefore expect to continue to be subject to significant fluctuations in the price of gold.

Significant Acquisitions

In February 2010, we, along with our two subsidiaries, J&R Holding Limited and ASE Test, through a cash and stock tender offer, acquired 641,669,316 common shares of Universal Scientific at NT$21 per share, amounting to NT$13,475.1 million in total, resulting in our controlled ownership over Universal Scientific. As a result, Universal Scientific became our subsidiary. In August 2010, we acquired an additional 222,243,661 shares of Universal Scientific through another tender offer at NT$21 per share, amounting to NT$4,667.1 million in total. We owned

99.2% of the outstanding common shares of Universal Scientific as of March 31, 2014. See “Item 4. Information on the Company—History and Development of the Company—Acquisition of Shares of Universal Scientific.”

Since our acquisition of Universal Scientific, their results of operations have been consolidated into our results of operations. Any losses by Universal Scientific may have a significant adverse effect on our net income.

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Adoption of New Financial Reporting Standards

In the past, we presented our consolidated financial statements in accordance with ROC GAAP for purposes of our filings with the Taiwan Stock Exchange, with reconciliation to U.S. GAAP for certain filings with the SEC.

Starting from January 1, 2013, we adopt IFRS for certain filings with the SEC, including our annual reports on Form 20-F. Following our adoption of IFRS for SEC filing purposes, we are no longer required to reconcile net income and balance sheet differences under our consolidated financial statements with U.S. GAAP. See note 41 to our consolidated financial statements for an explanation of how the transition from ROC GAAP to IFRS has affected the reported financial position, financial performance and cash flows of our Company.

Recent Accounting Pronouncements

Please refer to note 3 to our consolidated financial statements attached hereto for more information.

Critical Accounting Policies and Estimates

Preparation of our consolidated financial statements requires us to make estimates and judgments in applying our critical accounting policies which have a significant impact on the results we report in our consolidated financial statements. Our principal accounting policies are set forth in detail in note 3 to our consolidated financial statements included in this annual report. We continually evaluate these estimates and assumptions. Actual results may differ from these estimates under different assumptions and conditions. Significant accounting policies are summarized as follows.

Revenue Recognition. Revenue is measured at the fair value of the consideration received or receivable take into account of estimated customer returns, rebates and other similar allowances. Revenue from the sale of goods and real e