ADVANCED SEMICONDUCTOR ENGINEERING INC
Form 20-F
June 17, 2011

As filed with the Securities and Exchange Commission on June 17, 2011

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

FORM 20-F

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

OR

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

For the fiscal year ended December 31, 2010

OR

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

OR

o SHELL 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:

6,066,118,452 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 þ No ¨

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes ¨ No þ

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 þ No ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes ¨ No þ

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 þ Accelerated filer ¨ Non-accelerated filer ¨

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

U.S. GAAP ¨ International Financial Reporting Standards as issued by the International Accounting Standards Board ¨ Other þ

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

Item 17 ¨ Item 18 þ

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ¨ No þ

** As a result of the exercise of employee stock options subsequent to December 31, 2010, as of April 30, 2011, we had 6,052,219,212 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" are to ASE Test Limited, a company incorporated under the laws of Singapore, (iii) "ASE Test Taiwan" are to ASE Test, Inc., a company incorporated under the laws of the ROC, (iv) "ASE Test Malaysia" are to ASE Electronics (M) Sdn. Bhd., a company incorporated under the laws of Malaysia, (v) "ISE Labs" are to ISE Labs, Inc., a corporation incorporated under the laws of the State of California, (vi) "ASE Korea" are to ASE (Korea) Inc., a company incorporated under the laws of the Republic of Korea, (vii) "ASE Japan" are to ASE Japan Co. Ltd., a company incorporated under the laws of Japan, (viii) "ASE Shanghai" are to ASE (Shanghai) Inc., a company incorporated under the laws of the PRC, (ix) "ASE Electronics" are to ASE Electronics Inc., a company incorporated under the laws of the ROC, (x) "PowerASE" are to PowerASE Technology, Inc., a company incorporated under the laws of the ROC, (xi) "ASESH AT" are to ASE Assembly & Test (Shanghai) Limited, formerly known as Global Advanced Packaging Technology Limited, a company incorporated under the laws of the PRC, or GAPT, (xii) "ASEN" are to Suzhou ASEN Semiconductors Co., Ltd., a company incorporated under the laws of the PRC, (xiii) "ASEWH" are to ASE (Weihai), Inc., a company incorporated under the laws of the PRC, (xiv) "ASEKS" are to ASE (KunShan) Inc., a company incorporated under the laws of the PRC, (xv) "Universal Scientific" or "USI" are to Universal Scientific Industrial Co., Ltd. and, unless the context requires otherwise, its subsidiaries, a company incorporated under the laws of the ROC, (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) the "Securities Act" are to the U.S. Securities Act of 1933, as amended, and (xxi) the "Exchange Act" are to the U.S. Securities Exchange Act of 1934, as amended.

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 "CNY" are to the currency of the PRC; references to "JP¥" are to the currency of Japan; and references to "MYR" are to the currency of Malaysia. 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 30, 2010, which was NT$29.14=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 or U.S. dollar amounts referred to herein could have been or could be converted into U.S. dollars or NT dollars, as the case may be, at any particular rate or at all. On June 3, 2011, the exchange rate as set forth in the H.10 weekly statistical release by the Federal Reserve Board was NT$28.66=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, including statements regarding our future results of operations

and business prospects. Although these forward-looking statements, which may include statements regarding our future results of operations, financial conditions 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. We were not involved in the preparation of these projections. The words "anticipate," "believe," "estimate," "expect," "intend," "plan" and similar expressi as they relate to us, are intended to identify these forward-looking statements in this annual report. Our actual results of operations, financial conditions or business prospects may differ materially from those

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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; 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 income data and cash flow data for the years ended December 31, 2008, 2009 and 2010, and the selected consolidated balance sheet data as of December 31, 2009 and 2010, 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. The selected consolidated statements of income data and cash flow data for the years ended December 31, 2006 and 2007 and the selected consolidated balance sheet data as of December 31, 2006, 2007 and 2008, set forth below, are derived from our audited consolidated financial statements not included herein and have been classified to conform to the presentation of the consolidated financial statements in this annual report. Our consolidated financial statements have been prepared and presented in accordance with accounting principles generally accepted in the ROC, or ROC GAAP, which differ in some material respects from accounting principles generally accepted in the United States of America, or U.S. GAAP. See note 32 to our consolidated financial statements for a description of the significant differences between ROC GAAP and U.S. GAAP for the periods covered by these consolidated financial statements.

	As of and for the Year Ended December 31,					
	2006	2007	2008	2009	2010	
	NT$	NT$	NT$	NT$	NT$	US$
	(in millions, except earnings per share and per ADS data)					
ROC GAAP:						
Income Statement Data:						
Net revenues	100,423.6	101,163.1	94,430.9	85,775.3	188,742.8	6,477.1
Cost of revenues(1)	(72,838.8)	(72,714.4)	(72,347.7)	(67,433.6)	(148,198.2)	(5,085.7)
Gross profit	27,584.8	28,448.7	22,083.2	18,341.7	40,544.6	1,391.4
Total operating expenses	(8,075.7)	(9,580.6)	(10,524.1)	(9,131.8)	(16,445.6)	(564.4)
Income from operations	19,509.1	18,868.1	11,559.1	9,209.9	24,099.0	827.0
Non-operating income (expense), net (1)	2,742.3	(1,516.2)	(2,083.3)	(821.5)	(1,275.4)	(43.8)
Income before income tax	22,251.4	17,351.9	9,475.8	8,388.4	22,823.6	783.2
Income tax expense	(2,084.8)	(3,357.4)	(2,268.3)	(1,484.9)	(3,628.7)	(124.5)
Income from continuing operations	20,166.6	13,994.5	7,207.5	6,903.5	19,194.9	658.7
Cumulative effect of change in accounting principle	(342.5) (2)	—	—	—	—	—
Net income	19,824.1	13,994.5	7,207.5	6,903.5	19,194.9	658.7
Attributable to						

Shareholders of the parent	17,416.2	12,165.3	6,160.1	6,744.6	18,337.5	629.3
Minority interest	2,407.9	1,829.2	1,047.4	158.9	857.4	29.4
	19,824.1	13,994.5	7,207.5	6,903.5	19,194.9	658.7
Income from operations per common share	3.35	3.18	1.95	1.62	4.08	0.14
Income from continuing operations per common share	3.05	2.05	1.04	1.19	3.10	0.11
Earnings per common share(3):						
Basic	2.99	2.05	1.04	1.19	3.10	0.11
Diluted	2.85	1.98	1.02	1.17	3.04	0.10
Dividends per common share(4)	—	2.96	2.00	0.50	1.20	0.04

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	As of and for the Year Ended December 31,					
	2006	2007	2008	2009	2010	
	NT$	NT$	NT$	NT$	NT$	US$
	(in millions, except earnings per share and per ADS data)					
Earnings per equivalent ADS(3):						
Basic	14.96	10.26	5.19	5.94	15.52	0.53
Diluted	14.26	9.91	5.08	5.86	15.21	0.52
Number of common shares(5):						
Basic	5,820.3	5,929.5	5,931.7	5,678.7	5,906.7	5,906.7
Diluted	6,163.4	6,196.0	6,002.6	5,727.9	5,981.8	5,981.8
Number of equivalent ADSs:						
Basic	1,164.1	1,185.9	1,186.3	1,135.7	1,181.3	1,181.3
Diluted	1,232.7	1,239.2	1,200.5	1,145.6	1,196.4	1,196.4
Balance Sheet Data:						
Current assets	48,762.8	56,902.0	46,347.2	61,398.7	85,598.9	2,937.5
Long-term investments	5,734.5	4,850.2	4,327.0	5,160.0	2,400.1	82.4
Property, plant and equipment, net	73,543.8	81,788.3	84,758.0	79,363.9	99,853.9	3,426.7
Intangible assets	3,449.0	4,732.3	12,592.0	12,232.7	15,248.1	523.3
Other assets	5,476.5	4,066.2	4,039.1	3,819.5	5,038.7	172.9
Total assets	136,966.6	152,339.0	152,063.3	161,974.8	208,139.7	7,142.8
Short-term borrowings(6)	8,499.1	15,773.9	11,473.2	13,960.3	17,173.5	589.3
Long-term liabilities(7)	29,324.0	23,897.6	51,495.5	49,306.0	52,533.8	1,802.8
Other liabilities(8)	22,016.7	22,927.6	17,133.8	23,994.8	46,593.1	1,599.0
Total liabilities	59,839.8	62,599.1	80,102.5	87,261.1	116,300.4	3,991.1
Capital stock	45,925.1	54,475.6	56,904.3	54,798.8	60,519.9	2,076.9
Minority interest in consolidated subsidiaries	11,106.9	14,566.5	2,288.7	3,097.7	3,283.0	112.7
Total shareholders’ equity	77,126.8	89,739.9	71,960.8	74,713.7	91,839.3	3,151.7
Cash Flow Data:						
Net cash outflow from acquisition of property, plant and equipment	(17,764.2)	(17,190.4)	(18,583.3)	(11,445.6)	(34,109.1)	(1,170.5)
Depreciation and amortization	14,488.2	16,626.2	17,244.9	17,638.0	19,854.5	681.3
Net cash inflow from operating activities	37,310.8	28,310.6	30,728.8	15,517.2	36,965.1	1,268.5
Net cash outflow from investing activities	(22,104.5)	(18,108.4)	(36,359.2)	(15,980.7)	(36,085.5)	(1,238.3)
Net cash inflow (outflow) from financing activities	(12,581.9)	(8,492.7)	13,862.4	(2,778.5)	1,701.5	58.4
Segment Data:						
Net revenues:						
Packaging	76,820.5	78,516.3	73,391.6	67,935.5	101,071.3	3,468.5
Testing	21,429.6	20,007.8	19,021.4	15,795.1	21,957.0	753.5
Electronic manufacturing services(9)	—	—	—	—	59,577.4	2,044.5
Others	2,173.5	2,639.0	2,017.9	2,044.7	6,137.1	210.6.
Gross profit:						
Packaging	18,520.7	20,413.4	14,474.6	12,547.9	21,320.6	731.7
Testing	8,466.9	7,373.5	6,255.3	4,453.0	8,245.7	283.0

Electronic manufacturing services(9)	—	—	—	—	6,482.2	222.4
Others	597.2	661.8	1,353.3	1,340.8	4,496.1	154.3

	As of and for the Year Ended December 31,					
	2006	2007	2008	2009	2010	
	NT$	NT$	NT$	NT$	NT$	US$
	(in millions, except earnings per share and per ADS data)					
U.S. GAAP:						
Income Statement Data:						
Net revenues	100,423.6	101,163.1	94,430.9	85,775.3	188,742.8	6,477.1
Cost of revenues	(73,418.5)	(75,139.9)	(73,001.9)	(68,350.9)	(148,874.7)	(5,108.9)
Gross profit	27,005.1	26,023.2	21,429.0	17,424.4	39,868.1	1,368.2
Total operating expenses	(9,855.6)	(10,898.1)	(10,615.0)	(9,431.5)	(16,877.5)	(579.2)
Income from operations	17,149.5	15,125.1	10,814.0	7,992.9	22,990.6	789.0
Non-operating income (expense), net	1,241.8	(134.0)	(1,664.9)	(679.5)	512.2	17.5
Income before income tax	18,391.3	14,991.1	9,149.1	7,313.4	23,502.8	806.5

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	As of and for the Year Ended December 31,					
	2006	2007	2008	2009	2010	
	NT$	NT$	NT$	NT$	NT$	US$
	(in millions, except earnings per share and per ADS data)					
Income tax expense	(1,980.7)	(3,262.5)	(2,503.5)	(1,793.0)	(4,578.7)	(157.1)
Income from continuing operations	16,410.6	11,728.6	6,645.6	5,520.4	18,924.1	649.4
Cumulative effect of change in accounting principle	(296.5)(10)	—	—	—	—	—
Net income	16,114.1	11,728.6	6,645.6	5,520.4	18,924.1	649.4
Attributable to						
Shareholders of the parent	14,122.7	9,931.1	5,492.1	5,317.5	18,181.3	623.9
Noncontrolling interest	1,991.4	1,797.5	1,153.5	202.9	742.8	25.5
	16,114.1	11,728.6	6,645.6	5,520.4	18,924.1	649.4
Earnings per common share(3):						
Basic	2.47	1.70	0.93	0.94	3.08	0.11
Diluted	2.36	1.64	0.92	0.93	3.05	0.10
Earnings per equivalent ADS(3):						
Basic	12.34	8.49	4.65	4.68	15.39	0.53
Diluted	11.80	8.21	4.58	4.64	15.23	0.52
Number of common shares(11):						
Basic	5,722.6	5,849.0	5,905.1	5,678.7	5,906.7	5,906.7
Diluted	6,055.6	6,122.2	5,945.3	5,698.3	5,935.2	5,935.2
Number of equivalent ADSs(11):						
Basic	1,144.5	1,169.8	1,181.0	1,135.7	1,181.3	1,181.3
Diluted	1,211.1	1,224.4	1,189.1	1,139.7	1,187.0	1,187.0
Balance Sheet Data:						
Current assets	48,762.8	56,902.0	46,347.2	61,398.7	85,598.9	2,937.5
Long-term investments	4,266.9	3,045.4	2,842.7	3,341.2	1,343.4	46.1
Property, plant and equipment, net	70,894.1	80,036.6	82,694.5	77,927.1	99,123.3	3,401.6
Intangible assets	3,972.4	5,255.8	12,940.6	12,522.8	15,474.2	531.1
Other assets	5,760.6	3,728.3	3,856.5	2,684.5	3,453.2	118.5
Total assets	133,656.8	148,968.1	148,681.5	157,874.3	204,993.0	7,034.8
Short-term borrowings(6)	8,499.1	15,773.9	11,473.2	13,960.3	17,173.5	589.3
Long-term liabilities(7)	29,324.0	23,897.6	51,495.5	49,306.0	52,533.8	1,802.8
Other liabilities(8)	24,228.3	24,746.0	18,307.1	25,092.3	48,810.8	1,675.1
Total liabilities	62,051.4	64,417.5	81,275.8	88,358.6	118,518.1	4,067.2
Capital stock	45,925.1	54,475.6	56,904.3	54,798.8	60,519.9	2,076.9
Equity attributable to shareholders of the parent	60,584.1	70,101.4	65,303.0	66,555.5	82,981.7	2,847.7
Noncontrolling interest in consolidated subsidiaries	11,021.3	14,449.2	2,102.7	2,960.2	3,493.2	119.9

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(1) Effective January 1, 2009, we adopted the newly revised ROC Statement of Financial Accounting Standards, or SFAS, No. 10 "Accounting for Inventories." Abnormal cost, write-downs of inventories and any reversal of write-downs are recorded as cost of revenues from non-operating expenses. Information in this annual report from our consolidated statements of income for each of the three years in the period ended December 31, 2008 has been

adjusted to reflect the reclassification.

(2) Represents the cumulative effect of our adoption of ROC SFAS No. 34 "Financial Instrument: Recognition and Measurement" and ROC SFAS, No. 36 "Financial Instruments: Disclosure and Presentation."

(3) 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.

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

(5) Represents the weighted average number of shares after retroactive adjustments to give effect to (i) employee stock bonuses for earning year 2006 and earning year 2007 and (ii) stock dividends. Common shares held by consolidated subsidiaries are classified as "treasury stock," and are deducted from the number of common shares outstanding.

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

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

(8) Includes current liabilities other than short-term borrowings.

(9) We have begun providing electronic manufacturing services as a result of our acquisition of Universal Scientific in February 2010.

(10) Represents the cumulative effect of our adoption of U.S. GAAP related to "Share-Based Payment."

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(11) Represents the weighted average number of common shares after retroactive adjustments to give effect to stock dividends.

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 the 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. For periods prior to January 1, 2009, the exchange rates reflected the noon buying rate for cable transfers in NT dollars as certified for customs purposes by the Federal Reserve Bank of New York. For periods after January 1, 2009, the exchange rates reflect the exchange rates set forth in the H.10 statistical release of the Federal Reserve Board.

	Exchange Rate			
	Average	High	Low	Period-End
2006	32.51	33.31	31.28	32.59
2007	32.85	33.41	32.26	32.43
2008	31.52	33.58	29.99	32.76
2009	33.02	35.21	31.95	31.95
2010	31.50	32.43	29.14	29.14
November	30.32	30.52	30.12	30.47
December	29.90	30.37	29.14	29.14
2011				
January	29.11	29.36	28.98	29.03
February	29.28	29.76	28.78	29.74
March	29.49	29.63	29.35	29.40
April	28.98	29.31	28.67	28.67
May	28.73	28.99	28.50	28.64

On June 3, 2011, the exchange rate as set forth in the H.10 weekly statistical release by the Federal Reserve Board was NT$28.66 =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, computer 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 2010, approximately 47.5%, 16.9% and 35.2% of our net revenues from packaging and testing were attributed to the packaging and testing of semiconductors used in communications, computer, and consumer electronics/industrial/automotive applications, respectively. In the same year, approximately 34.7%, 25.9%, 19.4% and 19.5% of our net revenues from electronic manufacturing services were attributed to the communications, computer, 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.

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.

During 2008 and 2009, the global economic downturn adversely affected businesses worldwide, including our customers, whose success is linked to the health of the economy. As widely reported, the global financial markets experienced extreme volatility and disruptions, which have severely diminished liquidity and credit availability. This market turmoil and tightening of credit led to an increased level of commercial and consumer delinquencies, lack of consumer confidence, increased market volatility and widespread reduction of business activity generally. The recent instability in the Middle East and the sovereign debt crisis in Europe have further increased the market volatility and may have a material adverse effect on our operations. There can be no assurance that there will be no further deterioration in the global financial markets. In addition, any economic downturn or crisis may also 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

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- 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 which may have large-scale manufacturing capabilities and can react fast to market changes. We believe that the principal competitive factors 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;
- 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. 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:

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- 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;
- timing of capital expenditures in anticipation of future orders;
- 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
- earthquakes, drought, epidemics 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 will 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 increased since 2009, we cannot assure you that we will

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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 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 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 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 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 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 and cultural 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 in China 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 loan 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 additional borrowings to fund our privatization of ASE Test in May 2008, the distribution of cash dividends in August 2008, and our acquisition 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 would breach our financial covenants and our financial condition would be adversely affected. As of April 30, 2011, no lender has sought to declare a default or enforce remedies in respect of our existing debt as a result of cross-default provisions, breaches of financial covenants or otherwise, although we cannot provide any assurance that they will not take action 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 and other 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 any of our personnel. 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 cost of revenues and operating expenses, on the other hand, are incurred in several

currencies, primarily NT dollars, U.S. dollars and Chinese yuan, as well as, to a lesser extent, Japanese yen, Korean won 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 much of the remainder in Japanese yen. Fluctuations in exchange rates, primarily among the U.S. dollar, the NT dollar, the Japanese yen and the Chinese yuan, 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$282.0 million, NT$4.2 million and NT$317.6 million (US$10.9 million) in 2008, 2009 and 2010, 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."

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 27.1%, 28.7% and 26.0% of our net revenues in 2008, 2009 and 2010, respectively. No customer accounted for more than 10% of our net revenues in 2008, 2009 and 2010. 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. In addition, on February 23, 2009, we and Advanced Microelectronic Products, Inc., or AMPI, a provider of foundry services, signed a memorandum of understanding to enter into a strategic alliance focused on providing semiconductor manufacturing turnkey services. These 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. These strategic alliances and any of 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. We are currently unable to quantify with any degree of certainty the effects of such disruption to our supplies. 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 Kinsus Interconnect Technology Corporation, Nanya Printed Circuit Board Corporation and Unimicron Technology Corp. Our operations conducted through our wholly-owned subsidiary ASE Electronics and ASE Shanghai have improved our ability to obtain advanced substrates on a timely basis and at a reasonable cost. However, 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 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.

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. Although we have not suffered material environmental claims in the past, the failure to comply with any present or future regulations could result in the assessment of damages or imposition of fines against us, suspension of production or a cessation of our operations. New regulations could require us to acquire costly equipment or to incur other significant expenses that we may not be able to pass on to our customers. Additionally, any failure on our part to control the use, or adequately restrict the discharge, of hazardous substances could subject us to future liabilities that may have a material adverse effect on our financial condition and results of operations. Any failure on the environmental requests on our products, such as Directive 2002/95/EC, see “Item 4. Business Overview—Raw Materials and Suppliers—Packaging,” may have a material adverse effect on our results of operations.

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 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.

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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 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. See "Item 8. 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.

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, among other things, 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. 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.

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

Under ROC GAAP and U.S. GAAP, 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, in 2008, we recognized impairment charges of NT$293.3 million related to our other-than-temporary loss in our financial assets and impaired idle equipment. In 2009, we recognized impairment charges of NT$11.1 million, primarily as a result of impaired idle equipment. In 2010, we recognized impairment charges of NT$251.4 million (US$8.6 million), primarily as a result of an impairment charge related to buildings and improvement, and impaired idle equipment and investment. As of December 31, 2010, goodwill under ROC GAAP and U.S. GAAP amounted to NT$10,408.0 million (US$357.2 million) and NT$10,298.5 million (US$353.4 million), respectively. 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 "—Goodwill."

We are unable to estimate the extent and timing of any impairment charges for future years under ROC GAAP or U.S. GAAP, and we cannot give any assurance that impairment charges will not be required in periods subsequent to December 31, 2010. 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.

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 64.9%, 63.3% and 49.8% of our net revenues in 2008, 2009 and 2010, 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 wire bond 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 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.

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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. 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 2009, Taiwan experienced severe damage from typhoons, including typhoon Morakot on August 7, 2009 that caused over 600 deaths, severe flooding and extensive property damage. In the third quarter of 2004, a typhoon caused a partial interruption for approximately two weeks in our water supply at ASE Chung Li’s substrate operations.

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 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. 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 Taiwan), an outbreak of H1N1 influenza, H5N1 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 conditions or results of operations.

Risks Relating to Ownership of the ADSs

The market for the 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.

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There has been no trading market outside the ROC for the common shares and the only trading market for the 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 the common shares or the ADSs will be active or liquid.

Although ADS holders are entitled to withdraw the common shares underlying the ADSs from the depositary at any time, ROC law requires that the 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 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 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 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 the common shares on the Taiwan Stock Exchange or otherwise.

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 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, 2010 to December 31, 2010, the Taiwan Stock Exchange Index peaked at 8,972.5 on December 31, 2010, and reached a low of 7,071.7 on June 9, 2010. Over the same period, the trading price of our common shares ranged from NT$35.5 per share to NT$21.8 per share. On June 3, 2011, the Taiwan Stock Exchange Index closed at 9,046.3, and the closing value of our common shares was NT$36.2 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.

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Holders of common shares and ADSs may incur dilution as a result of the practice among ROC technology companies of issuing stock bonuses and stock options to employees.

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 the common shares on the day prior to our shareholders' meeting. In addition, under the revised ROC Company Law we may, upon approval from our board of directors and the ROC Securities and Futures Bureau of the Financial Supervisory Commission, Executive Yuan, establish employee stock option plans. We currently maintain four employee stock option plans pursuant to which our full-time employees and the full-time employees of our domestic and foreign subsidiaries are eligible to receive stock option grants. As of December 31, 2010, 397,627,480 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.

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 ROC Financial Supervisory Commission, Executive Yuan, unless:

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

(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 ROC Financial Supervisory Commission, Executive Yuan 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 the 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

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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 the 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.

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 the common shares and deposited into the depositary receipt facility; and
- any cash dividends or distributions received from the 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 current ROC law, a holder of the ADSs, without obtaining further approval from the Central Bank of the Republic of China (Taiwan), may convert from NT dollars into other currencies, including U.S. dollars, the following:

- the proceeds of the sale of any underlying common shares withdrawn from the depositary receipt facility or received as a stock dividend that has been deposited into the depositary receipt facility; and
- any cash dividends or distribution received from the common shares.

However, such holder 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

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of the proceeds from the sale of subscription rights for new common shares. Although the Central Bank of the Republic of China (Taiwan) is generally expected to grant this approval as a routine matter, we cannot assure you that you will actually obtain this approval 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. We or 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 the 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 the common shares or the ADSs.

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. We were listed on the Taiwan Stock Exchange in 1989. 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 ASE (Weihai), Inc.

On May 14, 2008, we completed the acquisition of 100.0% of Weihai Aimhigh Electronic Co. Ltd., now known as ASE (Weihai), Inc., from Aimhigh Global Corp. and TCC Steel for a purchase price of US$7.0 million. ASE (Weihai), Inc. is based in Shandong, China and is engaged in semiconductor packaging and testing.

ASE Test Share Acquisition and Privatization

Our subsidiary, ASE Test, was previously the holding company for the majority of our testing services. On September 4, 2007, we and ASE Test entered into a scheme implementation agreement under which we agreed to acquire all the outstanding ordinary shares of ASE Test that we did not already directly or indirectly own, and ASE Test became our wholly-owned subsidiary as of May 30, 2008. Through this transaction, we acquired a total of

58,438,944 shares of ASE Test for a total consideration of US$863.9 million. In order to finance our acquisition of ASE Test's shares, we entered into two syndicated loan agreements for term loan facilities of NT$17,500.0 million and US$200.0 million, respectively. For a further description of these agreements, see "Item 5. Operating and Financial Review and Prospects—Liquidity and Capital Resources," and Schedule 13E-3, as amended, filed by ASE Test with the United States Securities and Exchange Commission, or the SEC, on May 30, 2008.

Currently, ASE Test's subsidiaries comprise ASE Test Malaysia, ISE Labs and ASE Singapore Pte. Ltd., all of which ASE Test wholly owns.

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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 (US$462.4 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 (US$160.2 million) in total. We owned 99.2% of the outstanding common shares of Universal Scientific as of April 30, 2011.

Acquisition of EEMS Test Singapore

On August 2, 2010, we, through our subsidiary ASE Singapore Pte. Ltd., entered into a share purchase agreement with EEMS Asia Pte. Ltd., a subsidiary of EEMS Italia S.p.A., in connection with the acquisition of 100.0% of EEMS Test Singapore, a Singapore-based provider of test solutions for the semiconductor industry, for a purchase price of US$72.2 million. 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.

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

BUSINESS OVERVIEW

We are the world's largest independent provider of semiconductor packaging and testing services based on 2010 revenues. Our services include semiconductor packaging, production of interconnect materials, front-end engineering testing, wafer probing and final testing services. As a result of our acquisition of Universal Scientific in 2010, we now provide 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, 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 in 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 the trend for semiconductor companies to outsource their packaging, testing and manufacturing requirements is accelerating as semiconductor companies increasingly 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 independent packaging and testing companies that can provide turnkey services in order to reduce time-to-market and electronic manufacturing companies that can provide large-scale production and have the proactive original design capabilities. 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, which are the end users of our customers' products. 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. Our close proximity to end users of our customers' products is attractive to our customers who wish to take advantage of the logistical efficiencies of direct shipment services that we offer. We believe that, as a result, we are well positioned to meet the advanced semiconductor engineering and manufacturing requirements of our customers.

Our global base of over 200 customers includes leading semiconductor companies across a wide range of end-use applications, such as:

- Atmel Corporation
- AU Optronics Corp.
- Broadcom Corporation
- Cambridge Silicon Radio Limited
- Freescale Semiconductor, Inc.
- Infineon Technologies
- Lenovo Computer Ltd.
- Marvell Technology Group Ltd.
- Media Tek Inc.
- Motorola, Inc.
- Mstar Semiconductor Inc.
- Renesas Electronics Corporation
- Powerchip Semiconductor Corp.
- Qualcomm Incorporated
- STMicroelectronics N.V.
- Toshiba Corporation
- Valeo Group

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, computers 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$298 billion in 2010. We believe that overall growth and cyclical fluctuations will continue over the long-term in the semiconductor industry.

Electronic Manufacturing Services

According to Gartner, Inc., the overall size of the global market for electronics manufacturing services and original design manufacturing was estimated at approximately US$432 billion for 2010. 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

are no longer forced to maintain large inventories of products. Outsourcing will also enable them to still respond quickly and efficiently to sudden spikes in demand.

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 recently enhanced our presence in the industry through the acquisition of a majority interest in Universal Scientific.

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Outsourcing Trends in Semiconductor Manufacturing

Historically, semiconductor companies designed, manufactured, packaged and tested semiconductors primarily in their own facilities. There has been a trend in the industry to outsource stages in 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 and outsource 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 had traditionally 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 from current levels 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. Technical expertise becomes increasingly important as the industry transitions from one generation of technology to another, as evidenced by the current migration of the fabrication process from 8-inches to 12-inches in sub-micron technology and the size of technology nodes fabricated from 65 nm to 45 nm, as well as the integration of different functions into a single chip. 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 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 packaging and testing technologies and capacity. 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 packaging and testing operations focusing on low-end leadframe-based packages are under increasing pressure to rationalize these operations by relocating to locations with lower costs or better infrastructure, such as the PRC, in order to lower manufacturing costs and shorten production cycle time. We expect semiconductor companies to increasingly outsource their packaging and testing 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 rapid pace. Independent packaging and testing companies have been more aggressive in building copper bonding

capacity than integrated device manufacturers and have accumulated significantly more experience and know-how with regards to the new technology. Due to the inherent cost savings and comparable yield of copper and their lack of in-house capacity and experience, we believe that integrated device manufacturers will increase outsourcing of their manufacturing services for copper wire packages to independent packaging and test companies.

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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 in outsourcing. 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 also 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, long-term loans at favorable rates and research and development support, both directly and indirectly 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 Asian Regions

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.

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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.

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. Each die is attached to a leadframe or a

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Process	Description
5. Packaging (or Assembly)	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 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.

Strategy

Our objective is to provide integrated solutions, including packaging, testing services, interconnect materials design and production capabilities, which set industry standards 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 fine-pitch wire bonding, stacked die packaging and bump chip carrier packaging. 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

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accelerate our legacy packaging production in Shanghai and Kunshan, China and expand into the discrete packaging business by leveraging the existing assets of ASE (Weihai), Inc. and ASE (KunShan) Inc.

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. We currently provide module assembly services primarily at our facilities in Korea. 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 test, which helps us to better anticipate industry trends and take advantage of potential growth opportunities. We expect to combine our packaging, testing and materials technologies with the expertise of Universal Scientific at the systems level to develop our system-in-package (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 through selective acquisitions and joint ventures, with a focus on providing cost competitive and innovative packaging and testing services.

For our advanced packaging and testing business, we intend to invest in trends that are essential to the development of the industry. We plan to expand our capacity with respect to, among other things, 12-inch wafer process, bumping, FC-CSP and system-in-a-package products to meet demand for smaller form factors, higher performance and higher packaging density. We believe rising commodity prices will expedite the migration from leadframe and BGA-based packaging to flip-chip packaging and wafer level packaging, as the cost differential narrows. We intend to increase our capacity for flip-chip packaging and wafer level packaging in order to cope with rising demand for these packaging technologies.

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 been recently on an upward trend, which have in the past impacted our profitability. We believe that replacing gold wire in some of our packages with the 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 compared to the conventional gold packages, which could enhance our competitiveness and market share. We are currently the industry leader in terms of copper wire capacity and have developed the most extensive operating experience with this material. 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 thereafter into higher end substrate-based packages.

For our legacy packaging and testing business, we expect to focus on providing cost competitive services through our China operations by leveraging China's lower cost of labor and land and a rapidly growing end market. Our clients may also benefit from easier inventory management and savings in transportation costs and taxes by outsourcing their packaging and testing requirements to China. Through better management of capacity utilization and efficiency improvements, we plan to offer cost competitive legacy packaging and testing 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 2006, we entered into a joint venture with Powerchip, a DRAM manufacturer in Taiwan that focuses on the packaging and testing of memory semiconductors. In 2007, we completed the acquisition of GAPT, a company that provides wire bond packaging and testing services for a wide range of semiconductors, and formed a joint venture with NXP Semiconductors in Suzhou, China focused on semiconductor testing and packaging. In 2008, we completed the acquisition of ASE (Weihai), Inc., a company that also engages in semiconductor

packaging and testing services. In addition, we acquired an aggregate of 863,912,977 common shares of Universal Scientific through two tender offers in February 2010 and August 2010 and owned 99.2% of its outstanding common shares as of April 30, 2011. Universal Scientific is an electronics manufacturing services 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

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customers with more value-added products through Universal Scientific. 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.

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, all within relatively close geographic proximity to our customers, complementary service providers and the end users of our customers' products. In addition to our current operations, we intend to expand our packaging and testing operations in Chung Li, Taiwan to better serve our customers located in northern Taiwan and customers who request that we maintain the capability of packaging and testing their products at more than one location in Taiwan.

In addition to our locations in Taiwan, we have primary operations in the following locations:

- PRC — a fast-growing market for semiconductor and electronics manufacturing for domestic consumption and our primary sites for serving legacy packaging clients and electronics manufacturing services;

- Korea — an increasingly important center for the manufacturing of memory and communications devices;

- Malaysia and Singapore — an emerging 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 semiconductor packaging and testing services as Japanese integrated device manufacturers increasingly outsource their semiconductor manufacturing requirements.

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

We intend to strengthen existing, and develop new, strategic relationships with 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.

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. In addition, on February 23, 2009, we and AMPI, a provider of foundry services, signed a memorandum of understanding to enter into a

strategic alliance focused on providing semiconductor manufacturing turnkey services.

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Principal Products and Services

We offer a broad range of advanced and legacy semiconductor packaging and testing services. In addition, we started providing electronic manufacturing services since our acquisition of Universal Scientific in February 2010. Our package types employ either leadframes or substrates as interconnect materials. The semiconductors we package are used in a wide range of end-use applications, including communications, computers, consumer electronics, industrial, automotive and other applications. Our testing 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 logic 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, among others, computers, peripherals, communications, industrial applications, automotive electronics, and storage and server applications. In 2010, our revenues generated from packaging, testing and electronic manufacturing services accounted for 53.5%, 11.6% and 31.6% of our net 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. Within our portfolio of package types, we focus on the packaging of semiconductors for which there is expected to be strong demand. These include advanced 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 flip-chip BGA, flip-chip CSP and other BGA types as well as other advanced packages such as wafer-level products, aCSP (advanced chip scale packages) and aWLP (advanced wafer level packages, fan-out). 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, and low cost flip-chip packages (a-fcCSP) solutions for our customers. Furthermore, we provide flexible packages, such as MAP POP (package on package) and aMAP POP (advanced, laser ablation type), which enable our customers to mount packages more easily. With respect to our module assembly services, we also provide turnkey solutions regarding certain widely-used applications, such as WiMAX, GPS, WLAN and BT, for the integration of different package types into one module. 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.

The semiconductor packaging industry has evolved to meet the advanced packaging requirements of high-performance semiconductors. The development of high-performance electronics products has spurred the innovation of semiconductor packages that have higher interconnect density and better electrical performance. As a part of this technology migration, 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.

Leadframe-Based Packages. Leadframe-based packages are packaged by connecting the die, using wire bonders, to the leadframe with gold wire. As packaging technology improves, the number of leads per package increases. Packages have evolved from the lower pin-count plastic dual in-line packages to higher pin-count quad flat packages. In addition, improvements in leadframe-based packages have reduced the footprint of the package on the circuit board and improved the electrical performance of the package. The following table sets forth our principal leadframe-based packages.

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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 wire with printed circuit boards.	Cellular phones, wireless local access networks, personal digital assistant devices and digital cameras.
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.
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,	Consumer audio/video and entertainment products, cordless telephones, pagers, fax machines, printers, copiers, personal computer

		fast static RAM, also called FSRAM, and flash memory devices.	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.

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Package Types	Number of Leads	Description	End-Use 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.
Discrete	2-3	Discrete packages are mainly separated Through Hole Device (THD) and Surface Mounting Device (SMD) type which are molded epoxy molding compound. According to JEDEC standards, there are several kinds of mold and lead shapes.	THD package is optimized for using power device (SMP, motor, transformer in LCD/PDP TV, PC, audio, automotive area) and also SMD package is designed for small signal module (cellular phone, MP3, camera, portable electronic device, etc.).

Substrate-Based Packages. Substrate-based packages generally employ the BGA design, which utilizes a substrate rather than a leadframe. 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.

The BGA package type was developed in response to the requirements of advanced semiconductors. The benefits of the BGA package type include:

- smaller package size;
- higher pin-count;
- greater reliability;
- superior electrical signal transmission; and
- better heat dissipation.

The industry demand for BGA packages has grown significantly in recent years. BGA packages are generally used in applications where size, density and performance are important considerations, such as cellular handsets and high pin-count graphic chipsets. Our expertise in BGA packages also includes capabilities in stacked-die BGA, which assembles multiple dies into a single package. As an extension to stacked-die BGA, we also assemble system-in-a-package (SiP) products, which involve the integration of more than one chip into the same package. We believe that we are among the leaders in these packaging technologies.

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. In anticipation of this demand, we have focused on developing

our capabilities in some advanced packaging solutions, such as flip-chip BGA, flip-chip CSP, Flip-Chip PiP (Package in Package), aMAP POP. 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.

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The following table sets forth our principal substrate-based packages.

Package Types	Number of Leads	Description	End-Use Applications
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.
Cavity Down BGA	256-1140	Designed for memory devices such as flash memory devices, SRAM, DRAM and FSRAM, microprocessors/controllers and high-value, application-specific integrated circuits requiring a low profile, light and small package.	Telecommunications products, wireless and consumer systems, personal digital assistants, disk drives, notebook computers and memory boards.
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.
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.
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	Cellular phones, personal digital assistants and system boards.

cost and faster 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
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 interconnecting 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.
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.

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

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 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.

We provide numerous technologies to meet various customer demands. The following table sets forth our principal wafer-level packaging products:

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Package Types	Number of Leads	Description	End-Use Applications
Wafer Level Chip Scale Package (aCSP)	6-88	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.
Advanced Wafer Level Package (aWLP)	189-364	This technology allows the "fanout" of the package I/Os using an area larger than the die size without the need for a separate substrate. It offers cost effective alternatives to flip-chip and wire bumping packaging. 2D and 3D multi-die packages can enable leadless, multi-row and fine-pitch leadframe packages with enhanced thermal and electrical performance.	Telecommunications products, basebands and multiband transceivers.

Module Assembly. 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. We currently provide module assembly services primarily at our facilities in Korea for radio frequency and power amplifier modules used in wireless communications and automotive applications.

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 2010, our interconnect materials operations supplied approximately 46.5% 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,					
	2008		2009		2010	
	(percentage of packaging revenues)					
Advanced substrate and leadframe-based packages(1)	88.0	%	88.9	%	84.3	%
Traditional leadframe-based packages(2)	4.7		5.3		7.1	

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	Year Ended December 31,		
	2008	2009	2010
	(percentage of packaging revenues)		
Module assembly	4.1	3.0	4.7
Other	3.2	2.8	3.9
Total	100.0 %	100.0 %	100.0 %

(1) Includes leadframe-based packages such as QFP/TQFP, QFN/MCC and BCC and substrate-based packages such as various BGA package types (including flip-chip and others) and LGA.

(2) Includes leadframe-based packages such as SOP/TSOP, SOJ, PLCC and PDIP.

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/Discrete and memory final testing and other test-related services.

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/discrete 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 semiconductor 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.

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Logic/Mixed-signal/RF/Discrete Final Testing. We conduct final tests of a wide variety of logic/mixed-signal/RF/discrete semiconductors, with the number of leads or bumps ranging from the single digits to over ten thousand and operating frequencies of over 10 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, chipsets, graphics and disk controllers for home entertainment and personal computer applications, as well as a variety of consumer and application-specific integrated circuits for various specialized applications.

Memory Final Testing. We provide final testing services for a variety of memory products, such as SRAM, DRAM, single-bit erasable programmable read-only memory semiconductors and flash memory semiconductors.

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 program from one test platform to different test platforms to reduce cost of test.

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

- Remote Program Debugging. Process of allowing the customer to debug their test program remotely through 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 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; and

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/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.

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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,					
	2008		2009		2010	
	(percentage of testing revenues)					
Testing Services:						
Front-end engineering testing	3.2	%	2.9	%	2.2	%
Wafer probing	18.1		13.9		13.8	
Final testing	78.7		83.2		84.0	
Total	100.0	%	100.0	%	100.0	%

Electronic Manufacturing Services. Since our acquisition of 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 Hybird SiP;
- 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 Net Revenues, Gross Profit and Gross Margin."

Sales and Marketing

Sales and Marketing Offices

We maintain sales and marketing offices in Taiwan, the United States, Austria, Belgium, France, Germany, Singapore, the Philippines, the PRC, Korea, Malaysia, Japan, Mexico and other countries. 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

In 2010, our global base of over 200 customers includes leading semiconductor companies across a wide range of end-use applications, such as:

- Atmel Corporation
- AU Optronics Corp.
- Broadcom Corporation
- Cambridge Silicon Radio Limited
- Motorola, Inc.
- Mstar Semiconductor Inc.
- Renesas Electronics Corporation
- Powerchip Semiconductor Corp.

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- Freescale Semiconductor, Inc.
- Infineon Technologies
- Lenovo Computer Ltd.
- Marvell Technology Group Ltd.
- Media Tek Inc.
- Qualcomm Incorporated
- STMicroelectronics N.V.
- Toshiba Corporation
- Valeo Group

Our five largest customers together accounted for approximately 27.1%, 28.7% and 26.0% of our net revenues in 2008, 2009 and 2010, respectively. No customer accounted for more than 10% of our net revenues in 2008, 2009 and 2010.

We package and test for our customers a wide range of products with end-use applications in the communications, computers, consumer electronics, industrial and automotive sectors. The following table sets forth a breakdown of the percentage of our net 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,		
	2008	2009	2010
Communications	44.7 %		