

CHIPMOS TECHNOLOGIES BERMUDA LTD  
Form 20-F  
June 17, 2004  
Table of Contents

As filed with the Securities and Exchange Commission on June 17, 2004

---

## SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

---

### FORM 20-F

---

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

OR

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

For the fiscal year ended December 31, 2003

OR

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 0 31106

---

# ChipMOS TECHNOLOGIES (Bermuda) LTD.

(Exact Name of Registrant as Specified in Its Charter)

---

**Bermuda**

(Jurisdiction of Incorporation or Organization)

**No. 1, R & D Road 1**

**Hsinchu Science Park**

**Hsinchu, Taiwan**

**Republic of China**

(Address of Principal Executive Offices)

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

<u>Title of Each Class</u>	<u>Name of Each Exchange on Which Registered</u>
None	None

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

**Common Shares**

**Common Shares, par value US\$0.01 each**

(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None

(Title of Class)

---

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

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.

As of December 31, 2003, 59,300,038 Common Shares, par value US\$0.01 each were outstanding.

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

Indicate by check mark which financial statement item the registrant has elected to follow. Item 17  Item 18

---

**Table of Contents**

**TABLE OF CONTENTS**

**ChipMOS TECHNOLOGIES (Bermuda) LTD.**

	<b>Page</b>
<u>CAUTIONARY STATEMENT FOR PURPOSES OF THE SAFE HARBOR PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995</u>	ii
<b><u>PART I</u></b>	
Item 1. <u>Identity of Directors, Senior Management and Advisers</u>	1
Item 2. <u>Offer Statistics and Expected Timetable</u>	1
Item 3. <u>Key Information</u>	1
Item 4. <u>Information on the Company</u>	21
Item 5. <u>Operating and Financial Reviews and Prospects</u>	45
Item 6. <u>Directors, Senior Management and Employees</u>	63
Item 7. <u>Major Shareholders and Related Party Transactions</u>	68
Item 8. <u>Financial Information</u>	74
Item 9. <u>The Offer and Listing</u>	74
Item 10. <u>Additional Information</u>	75
Item 11. <u>Quantitative and Qualitative Disclosure about Market Risk</u>	82
Item 12. <u>Description of Securities Other Than Equity Securities</u>	83
<b><u>PART II</u></b>	
Item 13. <u>Defaults, Dividend Arrearages and Delinquencies</u>	83
Item 14. <u>Material Modifications to the Rights of Security Holders and Use of Proceeds</u>	83
Item 15. <u>Controls and Procedures</u>	83
Item 16A. <u>Audit Committee Financial Expert</u>	83
Item 16B. <u>Code of Ethics</u>	83
Item 16C. <u>Principal Accountant Fees and Services</u>	84
Item 16D. <u>Exemptions from the Listing Standards for Audit Committees</u>	84
Item 16E. <u>Purchases of Equity Securities by the Issuer and Affiliated Purchasers</u>	84
<b><u>PART III</u></b>	
Item 17. <u>Financial Statements</u>	84
Item 18. <u>Financial Statements</u>	84
Item 19. <u>Exhibits</u>	85

---

**Table of Contents**

**CAUTIONARY STATEMENT FOR PURPOSES OF THE SAFE HARBOR PROVISIONS OF THE  
PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995**

Except for historical matters, the matters discussed in this annual report are forward-looking statements that are subject to significant risks and uncertainties. These statements are generally indicated by the use of forward-looking terminology such as the words believe, expect, intend, anticipate, estimate, plan, project, may, will or other similar words that express an indication of actions or results of actions that may or are expected to occur in the future. Forward-looking statements include, but are not limited to, statements under the following headings related to the indicated topic:

Item 3. Key Information Risk Factors Risks Relating to Our Industry A decline in average selling prices for our services could result in a decrease in our earnings, about the trend of declining average selling prices;

Item 3. Key Information Risk Factors Risks Relating to Our Business A decrease in market demand for LCD and other flat-panel display driver semiconductors may adversely affect our capacity utilization rates and thereby negatively affect our profitability, about our expectation with respect to the growth in demand for liquid crystal display, or LCD, and other flat-panel display driver semiconductors;

Item 3. Key Information Risk Factors Risks Relating to Our Business We depend on key customers, including affiliates of Mosel Vitelic Inc., for a substantial portion of our net revenue and a loss of, or deterioration of the business from, any one of these customers could result in decreased net revenue and materially adversely affect our results of operations, about our expectation to rely on key customers;

Item 3. Key Information Risk Factors Risks Relating to Our Business The testing and assembly process is complex and our production yields and customer relationships may suffer as a result of defects or malfunctions in our testing and assembly equipment and the introduction of new packages, about the need to offer more sophisticated testing and assembly technologies;

Item 3. Key Information Risk Factors Risks Relating to Our Business Because of the highly cyclical nature of our industry, our capital requirements are difficult to plan. If we cannot obtain additional capital when we need it, we may not be able to maintain or increase our current growth rate and our profits will suffer, about our anticipated capital needs;

Item 3. Key Information Risk Factors Risks Relating to Our Business Our customers generally do not place purchase orders far in advance, which makes it difficult for us to predict our future revenue. As a result, we may be unable to adjust costs in a timely manner to compensate for revenue shortfalls and our results of operations may fluctuate from period to period, about our expectation to be dependent in any quarter upon purchase orders received in that quarter;

Item 4. Information on the Company Business Industry Background, about the expected growth in the semiconductor industry, including but not limited to the expected growth in the memory semiconductor market, LCD and other flat-panel display driver semiconductor market, mixed-signal semiconductor market and the outsourcing trends of the semiconductor industry in Taiwan and Mainland China; and

Item 5. Operating and Financial Review and Prospects, about the trends relating to our business.

Actual results may be materially different from those indicated by our forward-looking statements. Please see Item 3. Key Information Risk Factors for a discussion of certain other factors that may cause actual results to differ materially from those indicated by our forward-looking

statements.

-ii-

**Table of Contents****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 following tables set forth our selected consolidated financial data. The selected consolidated balance sheet data as of December 31, 2002 and 2003 and our consolidated statement of operations and cash flows data for 2001, 2002 and 2003 are derived from our audited consolidated financial statements included herein, and should be read in conjunction with, and are qualified in their entirety by reference to, these audited consolidated financial statements and related notes beginning on page F-1 of this annual report. These audited consolidated financial statements have been audited by Moore Stephens. The selected consolidated balance sheet data as of December 31, 1999, 2000 and 2001 and the consolidated statement of operations and cash flows data for the years ended December 31, 1999 and 2000 are derived from our audited consolidated financial statements not included herein. Our consolidated financial statements have been prepared and presented in accordance with ROC GAAP, which differs in some material respects from US GAAP. Please see Note 27 to our audited consolidated financial statements for a description of the principal differences between ROC GAAP and US GAAP for the periods covered by these financial statements. The financial data set forth below have been presented as if (1) we had been in existence since July 28, 1997, and (2) we acquired our interest in ChipMOS Taiwan on July 28, 1997.

	Year ended December 31,					
	1999	2000	2001	2002	2003	2003
	NT\$	NT\$	NT\$	NT\$	NT\$	US\$
(in millions, except per share data)						
<b>Consolidated Statement of Operations Data:</b>						
<b>ROC GAAP:</b>						
Net revenue:						
Related parties <sup>(1)</sup>	4,162.4	5,311.1	3,719.0	3,665.4	5,072.9	149.3
Others	2,221.5	2,913.1	1,526.1	2,860.5	3,953.6	116.3

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Total net revenue	6,383.9	8,224.2	5,245.1	6,525.9	9,026.5	265.6
Cost of revenue	4,936.4	5,511.0	6,029.3	6,711.7	7,459.5	219.5
Gross profit (loss)	1,447.5	2,713.2	(784.2)	(185.8)	1,567.0	46.1
Operating expenses:						
Research and development	281.7	357.4	408.9	326.8	295.0	8.7
Sales and marketing	84.2	138.0	34.7	37.3	65.4	1.9
General and administrative	169.0	238.5	248.0	310.2	439.9	12.9
Total operating expenses	534.9	733.9	691.6	674.3	800.3	23.5
Income (loss) from operations	912.6	1,979.3	(1,475.8)	(860.1)	766.7	22.6
Other income (expenses), net	(67.7)	(106.9)	(77.2)	(397.6)	(77.1)	(2.3)
Income (loss) before income tax and minority interests and interest in bonuses paid by subsidiaries <sup>(2)</sup>	844.9	1,872.4	(1,553.0)	(1,257.7)	689.6	20.3
Income tax benefit (expense)	102.1	(333.4)	(32.4)	(97.9)	29.0	0.9
Income (loss) before minority interests and interest in bonuses paid by subsidiaries <sup>(2)</sup>	947.0	1,539.0	(1,585.4)	(1,355.6)	718.6	21.2
Minority interests	(290.5)	(465.7)	450.5	385.3	(256.9)	(7.6)
Interest in bonuses paid by subsidiaries <sup>(2)</sup>	(70.8)	(115.9)				
Pre-acquisition earnings <sup>(3)</sup>					20.7	0.6
Net income (loss)	585.7	957.4	(1,134.9)	(970.3)	482.4	14.2



**Table of Contents**

	Year ended December 31,					
	1999	2000	2001	2002	2003	2003
	NT\$	NT\$	NT\$	NT\$	NT\$	US\$
(in millions, except per share data)						
<b>Earning (loss) per share:</b>						
Basic	\$ 13.04	\$ 17.76	\$ (19.45)	\$ (16.49)	\$ 8.19	\$ 0.24
Diluted	\$ 13.04	\$ 17.76	\$ (19.45)	\$ (16.49)	\$ 8.12	\$ 0.24
<b>Weighted-average number of shares outstanding:</b>						
Basic	44.9	53.9	58.3	58.8	58.9	58.9
Diluted	44.9	53.9	58.3	58.8	59.4	59.4
<b>US GAAP:<sup>(4)</sup></b>						
Net income (loss)	\$ 631.2	\$ 879.8	\$ (993.5)	\$ (913.4)	\$ 485.3	\$ 14.3
<b>Earning (loss) per share:</b>						
Basic	\$ 12.65	\$ 16.42	\$ (17.03)	\$ (15.52)	\$ 8.24	\$ 0.24
Diluted	\$ 12.65	\$ 16.42	\$ (17.03)	\$ (15.52)	\$ 8.17	\$ 0.24
<b>Weighted-average number of shares outstanding:</b>						
Basic	49.9	53.6	58.3	58.8	58.9	58.9
Diluted	49.9	53.6	58.3	58.8	59.4	59.4

- (1) Related parties include Mosel Vitelic Inc., or Mosel, Siliconware Precision Industries Co. Ltd., or Siliconware Precision, PlusMOS Technologies Inc., or PlusMOS, Ultima Electronics Corp., or Ultima, ProMOS Technologies Inc., or ProMOS, ThaiLin Semiconductor Corp., or ThaiLin, CHANTEK ELECTRONIC CO., LTD., or Chantek, Best Home Corp. Ltd., or Best Home, DenMOS TECHNOLOGY Inc., or DenMOS, Sun-Fund Securities Ltd., or Sun-Fund, Advanced Micro Chip Technology Co., Ltd., or AMCT, Jesper Limited and Prudent Holdings Group Ltd. See Note 20 of the notes to the consolidated financial statements. Effective April 1, 2004, PlusMOS was merged into Chantek with Chantek as the surviving entity. See Item 4. Information on the Company Our Structure and History CHANTEK ELECTRONIC CO., LTD.
- (2) Refers to bonuses to directors, supervisors and employees paid by a subsidiary.
- (3) Represents our share of pre-acquisition profits of ThaiLin prior to December 1, 2003, the date when we began to consolidate the accounts of ThaiLin.
- (4) Reflects the US GAAP adjustments as described in Note 27 of the notes to the consolidated financial statements.

	As of December 31,					
	1999	2000	2001	2002	2003	2003
	NT\$	NT\$	NT\$	NT\$	NT\$	US\$
(in millions)						
<b>Consolidated Balance Sheet Data:</b>						
<b>ROC GAAP:</b>						
<b>Current assets:</b>						
Cash and cash equivalents	149.7	1,190.5	1,181.1	2,487.5	1,731.0	50.9
Restricted cash and cash equivalents	5.0	34.0	234.0	76.9	282.4	8.3
Short-term investments	788.0	2,048.2	969.9	874.9	664.3	19.5
Notes and accounts receivable	2,161.7	1,988.2	1,481.5	1,697.4	2,644.8	77.8
Other receivables related parties	4.9	19.1	11.6	11.5	266.2	7.8
Other receivables third parties	35.6	18.1	10.6	92.3	866.6	25.5
Inventories	214.0	325.2	172.3	166.5	335.5	9.9
Prepaid expenses and other current assets	57.5	87.6	17.9	223.2	422.2	12.4
Total current assets	3,424.4	5,753.9	4,119.6	5,668.7	7,479.7	220.1
Long-term investments	150.1	280.3	271.4	1,441.9	640.5	18.8
Property, plant and equipment, net	7,943.0	12,428.8	10,799.6	10,043.6	11,086.8	326.2
Intangible assets net	472.8	321.4	155.3	51.9	225.2	6.6
Other assets	310.9	178.6	755.4	747.6	233.5	6.9

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Total assets	12,301.2	18,963.0	16,101.3	17,953.7	19,665.7	578.6
Current liabilities:						
Short-term bank loans	1,002.1	233.6	1,066.8	2,032.6	1,566.8	46.1
Current portion of long-term loans	319.3	1,076.3	1,180.0	352.2	692.8	20.4
Convertible bonds					267.6	7.9
Notes and accounts payable	255.0	228.2	120.1	145.4	372.7	11.0
Accrued expenses and other current liabilities	197.7	417.7	152.8	465.1	438.0	12.9
Total current liabilities	2,450.7	3,209.9	3,021.0	4,083.4	3,951.1	116.2
Long-term liabilities	2,314.8	3,125.5	1,969.4	4,011.4	3,438.9	101.2
Other liabilities	9.7	180.4	175.0	258.5	599.5	17.7
Total liabilities	4,775.2	6,515.8	5,165.4	8,353.3	7,989.5	235.1
Minority interests	2,323.2	3,738.4	3,336.7	2,887.1	4,428.0	130.3
Total shareholders' equity	5,202.8	8,708.8	7,599.2	6,713.3	7,248.2	213.2
<b>US GAAP<sup>(1)</sup>:</b>						
Current assets:						
Cash and cash equivalents	149.7	1,190.5	1,181.1	2,487.5	1,731.0	50.9
Restricted cash and cash equivalents	5.0	34.0	234.0	76.9	282.4	8.3
Short-term investments	788.0	2,048.2	995.6	869.4	660.7	19.4
Notes and accounts receivable	2,161.7	1,988.2	1,481.5	1,697.4	2,644.8	77.8
Other receivables - related parties	4.9	19.1	11.6	11.5	266.2	7.8
Other receivables - third parties	35.6	18.1	10.6	92.3	866.6	25.5
Inventories	213.3	324.3	171.4	166.2	335.5	9.9
Prepaid expenses and other current assets	57.5	87.6	17.9	223.2	422.2	12.4
Total current assets	3,423.7	5,752.9	4,144.5	5,663.0	7,476.1	220.0
Long-term investments	221.8	280.3	425.0	1,521.1	625.1	18.4
Property, plant and equipment, net	7,771.1	12,288.6	10,762.5	10,062.8	11,082.4	326.0
Intangible assets - net	58.6	57.2	41.1	33.5	225.2	6.6
Other assets	426.1	175.2	750.4	740.5	224.7	6.6
Total assets	11,901.3	18,554.2	16,123.5	18,020.9	19,633.5	577.6

**Table of Contents**

	As of December 31,					
	1999	2000	2001	2002	2003	2003
	NT\$	NT\$	NT\$	NT\$	NT\$	US\$
(in millions)						
<b>Current liabilities:</b>						
Short-term bank loans	1,002.1	233.6	1,066.8	2,032.6	1,566.8	46.1
Current portion of long-term loans	319.3	1,076.3	1,180.0	352.2	692.8	20.4
Convertible bonds					267.6	7.9
Notes and accounts payable	255.0	228.2	120.1	145.4	372.7	11.0
Accrued expenses and other current liabilities	229.0	470.0	152.8	465.1	438.0	12.9
<b>Total current liabilities</b>	<b>2,482.0</b>	<b>3,262.2</b>	<b>3,021.0</b>	<b>4,083.4</b>	<b>3,951.1</b>	<b>116.2</b>
Long-term liabilities	2,314.8	3,125.5	1,969.4	4,011.4	3,438.9	101.2
Other liabilities	9.7	98.9	137.2	258.8	603.7	17.8
<b>Total liabilities</b>	<b>4,806.5</b>	<b>6,486.6</b>	<b>5,127.6</b>	<b>8,353.6</b>	<b>7,993.7</b>	<b>235.2</b>
Minority interests	2,169.6	3,590.1	3,354.9	2,907.1	4,418.5	130.0
<b>Total shareholders' equity</b>	<b>4,925.2</b>	<b>8,477.5</b>	<b>7,641.0</b>	<b>6,760.2</b>	<b>7,221.3</b>	<b>212.4</b>

(1) Reflects the US GAAP adjustments as described in Note 27 of the notes to the consolidated financial statements.

	Year ended December 31,					
	1999	2000	2001	2002	2003	2003
	NT\$	NT\$	NT\$	NT\$	NT\$	US\$
(in millions)						
<b>Consolidated Statement of Cash Flows Data:</b>						
<b>ROC GAAP:</b>						
Capital expenditures	\$ 2,849.1	\$ 7,022.0	\$ 992.0	\$ 2,091.3	\$ 2,508.2	\$ 73.8
Depreciation and amortization	1,470.5	2,013.1	2,815.4	2,820.6	2,715.0	79.9
<b>Net cash provided by (used in):</b>						
Operating activities	1,498.3	4,295.4	1,620.5	1,463.7	1,877.1	55.2
Investing activities	(3,264.3)	(7,548.4)	(1,409.7)	(3,135.9)	(760.8)	(22.4)
Financing activities	1,653.9	4,294.2	(219.8)	2,978.6	(1,841.5)	(54.2)
Effect of exchange rate changes on cash		(0.4)	(0.4)		(31.4)	(0.9)
<b>Net increase (decrease) in cash</b>	<b>(112.1)</b>	<b>1,040.8</b>	<b>(9.4)</b>	<b>1,306.4</b>	<b>(756.6)</b>	<b>(22.3)</b>

**Exchange Rates**

References to US\$ and US dollars are to United States dollars and references to NT\$ and NT dollars are to New Taiwan dollars. This annual report contains translations of certain NT dollar amounts into US dollars at specified rates solely for the convenience of the reader. Unless otherwise noted, all translations from NT dollars to US dollars and from US dollars to NT dollars were made at the noon buying rate in The City of New York for cable transfers in NT dollars per US dollar as certified for customs purposes by the Federal Reserve Bank of New York as of December 31, 2003, which was NT\$33.99 to US\$1.00. We make no representation that the NT dollar or US dollar amounts referred to in this annual report could have been or could be converted into US dollars or NT dollars, as the case may be, at any particular rate or at all. On June 15, 2004, the noon buying rate was NT\$33.70 to US\$1.00.

The following table sets out, for the years and the months indicated, information concerning the number of NT dollars for which one US dollar could be exchanged based on the noon buying rate for cable transfers in NT dollars as certified for customs purposes by the Federal Reserve

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Bank of New York.

	NT dollars per US dollar noon buying rate			
	Average	High	Low	Period-end
1999	32.32	33.40	31.39	31.39
2000	31.60	33.25	30.50	33.17
2001	33.82	35.13	32.23	35.08
2002	34.53	35.16	32.85	34.70
2003	34.41	34.98	33.72	33.99
December 2003	34.06	34.15	33.99	33.99
2004 (through June 15, 2004)	33.32	33.98	32.73	33.70
January 2004	33.67	33.98	33.33	33.39
February 2004	33.21	33.36	33.10	33.28
March 2004	33.25	33.42	33.00	33.00
April 2004	32.97	33.27	32.73	33.27
May 2004	33.43	33.70	33.14	33.59
June (through June 15, 2004)	33.48	33.70	33.35	33.70

Sources: Federal Reserve Statistical Release H.10 (512), 1999-2004, Board of Governors of the Federal Reserve System.

## **Table of Contents**

### **Risk Factors**

#### **Risks Relating to Our Industry**

*Because we depend on the highly cyclical semiconductor industry, which is characterized by significant and sometimes prolonged downturns from time to time, our net revenue and earnings may fluctuate significantly, which in turn could cause the market price of our common shares to decline.*

Because our business is, and will continue to be, dependent on the requirements of semiconductor companies for independent testing and assembly services, any downturn in the highly cyclical semiconductor industry may reduce demand for our services and adversely affect our results of operations. All of our customers operate in this industry and variations in order levels from our customers and in service fee rates may result in volatility in our net revenue and earnings. For instance, during periods of decreased demand for assembled semiconductors, some of our customers may even simplify or forego final testing of certain types of semiconductors, such as dynamic random access memory, or DRAM, further intensifying our difficulties. From time to time, the semiconductor industry has experienced significant, and sometimes prolonged, downturns. For example, the semiconductor industry experienced a downturn beginning in the fourth quarter of 2000 until late 2002. As a result of the downturn, our net revenue and net income for 2001 decreased 36% and 219% from 2000 levels, respectively. Although the semiconductor industry has recovered from the downturn since late 2002 and our net revenue for 2003 increased 38% from 2002, and we generated a net income of NT\$482 million in 2003 compared to a net loss of NT\$970 million in 2002, we cannot give any assurances that the recovery will continue or that any future downturn will not affect our results of operations.

*Any deterioration in the market for end-user applications for semiconductor products would reduce demand for our services and may result in a decrease in our earnings.*

Market conditions in the semiconductor industry track, to a large degree, those for their end-user applications. Any deterioration in the market conditions for the end-user applications of semiconductors we test and assemble could reduce demand for our services and, in turn, materially adversely affect our financial condition and results of operations. Our net revenue is largely attributable to fees derived from testing and assembling semiconductors for use in personal computers, consumer electronic products, display applications and communications equipment. A significant decrease in demand for products in these markets could put pricing pressure on our testing and assembly services and negatively affect our net revenue and earnings. The decrease in market demand for personal computers and communications equipment that began in the fourth quarter of 2000 has adversely affected our results of operations in 2000, 2001 and 2002. While the market demand for personal computers and communications equipment has recovered since the beginning of 2003, a significant decrease in demand could again negatively affect our net revenue and earnings.

*A decline in average selling prices for our services could result in a decrease in our earnings.*

Historically, prices for our testing and assembly services in relation to any given semiconductor tend to decline over the course of its product and technology life cycle. For example, the average price of our testing and assembly services for synchronous dynamic random access memory, or SDRAM, semiconductors in 2003 decreased by approximately 44% from 2002. In addition, the average selling price for our testing and assembly services for DRAM further decreased by approximately 8% in 2003 from the average price in 2002. We expect this trend to continue in the future. Accordingly, if we cannot reduce the cost of our testing and assembly services, or introduce higher-margin testing and assembly services for new package types, to offset the decrease in average selling prices for our services, our earnings could decrease.



## **Table of Contents**

*A reversal or slowdown in the outsourcing trend for semiconductor testing and assembly services could reduce our profitability.*

In recent years, integrated device manufacturers, or IDMs, have increasingly outsourced stages of the semiconductor production process, including testing and assembly, to independent companies like us to shorten production cycles. 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, testing and assembly requirements to independent companies. Our net revenue indirectly generated from these IDMs and fabless companies constitutes a substantial portion of our net revenue, representing 85% of our net revenue in 2003. We cannot assure you that these companies will continue to outsource their testing and assembly requirements to independent companies like us. A reversal of, or a slowdown in, this outsourcing trend could result in reduced demand for our services, which in turn could reduce our profitability.

## **Risks Relating to Our Business**

*If we are unable to compete effectively in the highly competitive semiconductor testing and assembly markets, we may lose customers and our income may decline.*

The semiconductor testing and assembly markets are very competitive. We face competition from a number of IDMs with in-house testing and assembly capabilities and other independent semiconductor testing and assembly companies.

Our competitors may have access to more advanced technologies and greater financial and other resources than we do. Many of our competitors have shown a willingness to reduce prices quickly and sharply, as they did in 1998 and 2001, to maintain capacity utilization in their facilities during periods of reduced demand. In addition, an increasing number of our competitors conduct their operations in lower cost centers in Asia such as Mainland China, Thailand, Vietnam and the Philippines. Our prices for testing and assembly of memory and mixed-signal semiconductors were sharply reduced during the second half of 2000 through 2001. Although prices have increased approximately 20% for LCD and other flat-panel display driver semiconductor testing and assembly services in 2003, we cannot assure you that the prices will not decrease in the future. Any renewed or continued erosion in the prices or demand for our testing and assembly services as a result of increased competition could adversely affect our profits.

*We are highly dependent on the market for memory products. A downturn in the market for these products could significantly reduce our net revenue and net income.*

A significant percentage of our net revenue is derived from testing and assembling memory semiconductors. Our net revenue derived from the testing and assembly of memory semiconductors accounted for 72%, 56% and 62% of our net revenue in 2001, 2002, and 2003, respectively. In the past, our service fees for testing and assembling memory semiconductors were sharply reduced in tandem with the decrease in the average selling price of DRAM. For example, the weighted average selling price for DRAM decreased approximately 23% in 2003 from 2002. We cannot assure you that there will be no further decrease in DRAM prices. Any failure of the demand for DRAM to increase or any further decrease in the demand for memory products may therefore decrease the demand for our services and significantly reduce our net revenue and net income.

*A decrease in market demand for LCD and other flat-panel display driver semiconductors may adversely affect our capacity utilization rates and thereby negatively affect our profitability.*

We began offering testing and assembly services for LCD and other flat-panel display driver semiconductors in the second quarter of 2000. Our testing and assembly services for LCD and other flat-panel display driver semiconductors generated net revenue of NT\$132 million, NT\$992 million and NT\$1,683 million in 2001, 2002 and 2003, respectively. We spent NT\$374 million, NT\$1,232 million and NT\$1,255 million in 2001, 2002 and 2003, respectively, on equipment for tape carrier package, or TCP, and chip-on-film, or COF, technologies, which are used in testing and assembly services for LCD and other flat-panel display driver semiconductors. Most of this equipment may not be used for technologies other than TCP or COF. While there is currently a significant demand for our LCD and other flat-panel display driver semiconductor testing and assembly services, which we currently expect will continue to grow in 2004, any decrease in demand for these services would significantly impair our capacity utilization rates and may result in our inability to generate sufficient revenue to cover the significant depreciation



## **Table of Contents**

expenses for the equipment used in testing and assembling LCD and other flat-panel display driver semiconductors, thereby negatively affecting our profitability. See also Because of our high fixed costs, if we are unable to achieve relatively high capacity utilization rates, our earnings and profitability may be adversely affected.

*Our results of operations may fluctuate significantly and may cause the market price of our common shares to be volatile.*

Our results of operations have varied significantly from period to period and may continue to vary in the future. Among the more important factors affecting our quarterly and annual results of operations are the following:

our ability to accurately predict customer demand, as we must commit significant capital expenditures in anticipation of future orders;

our ability to quickly adjust to unanticipated declines or shortfalls in demand and market prices for our testing and assembly services, due to our high percentage of fixed costs;

changes in prices for our testing and assembly services;

volume of orders relative to our testing and assembly capacity;

capital expenditures and production uncertainties relating to the roll-out of new testing or assembly services;

our ability to obtain adequate testing and assembly equipment on a timely basis;

changes in costs and availability of raw materials, equipment and labor;

changes in our product mix; and

earthquakes, drought and other natural disasters, as well as industrial accidents.

Because of the factors listed above, our future results of operations or growth rates may be below the expectations of research analysts and investors. If so, the market price of our shares, and the market value of your investment, may fall.

*We depend on key customers, including affiliates of Mosel Vitelic Inc., for a substantial portion of our net revenue and a loss of, or deterioration of the business from, any one of these customers could result in decreased net revenue and materially adversely affect our results of operations.*

We depend on a small group of customers for a substantial portion of our business. In 2001 and 2002, our largest customer, Mosel Vitelic Inc., or Mosel, accounted for 48% and 35% of our net revenue, respectively. As of April 30, 2004, Mosel indirectly owned approximately 43.7% of

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

our outstanding common shares through its wholly-owned subsidiary, Giant Haven Investments Ltd., and its indirectly held subsidiary, Mou-Fu Investment Ltd. In the period from July to December 2003, Mosel transferred all of its DRAM business to its affiliate ProMOS Technologies Inc., or ProMOS, which since then has become our largest customer, accounting for 19% of our net revenue in 2003 and 33% of our net revenue in the first quarter of 2004. Although Mosel was our second largest customer in 2003, accounting for 19% of our net revenue, it ceased to be a key customer of ours following the transfer of its DRAM business to ProMOS. In 2004, we expect that our net revenue generated from ProMOS will increase significantly from 2003 reflecting its operation of its DRAM business for the full year and we do not expect any significant net revenue to be generated from Mosel. Our third largest customer in 2003, Ultima Electronics Corp., or Ultima, accounted for 12% of our net revenue. Ultima was our second largest customer in 2001 and 2002, accounting for approximately 22% and 19% of our net revenue in 2001 and 2002, respectively. As of April 30, 2004, ChipMOS Taiwan owned a 3.7% interest in Ultima.

We expect that we will continue to depend on a relatively limited number of customers for a significant portion of our net revenue. Any adverse development in our key customers' operations, competitive position or customer base could materially reduce our net revenue and adversely affect our business and profitability. The decline in market demand for semiconductors in 2001 and, in particular, the substantial decrease in the average selling price of DRAM, from the fourth quarter of 2001 to the end of 2002, adversely impacted Mosel. As a result, our net revenue from DRAM testing and assembly services decreased 60% from 2001 to 2002 and 77% from 2002 to 2003. In addition, since new customers usually require us to pass a lengthy and rigorous qualification process, if we lose any of our key customers, we may not be able to replace them in a timely manner. Also, semiconductor

## **Table of Contents**

companies generally rely on service providers with whom they have established relationships to meet their testing and assembly needs for existing and future applications. If any of our key customers reduces, delays or cancels its orders, and if we are unable to attract new key customers or use our excess capacity to service our remaining customers, our net revenue could be reduced and our business and results of operations materially adversely affected.

***Because of our high fixed costs, if we are unable to achieve relatively high capacity utilization rates, our earnings and profitability may be adversely affected.***

Our operations are characterized by a high proportion of fixed costs. For memory and mixed-signal semiconductor testing services, our fixed costs represented 83%, 53% and 53% of our total cost of revenue in 2001, 2002 and 2003, respectively. For memory and mixed-signal semiconductor assembly services, our fixed costs represented 37%, 44% and 28% of our total cost of revenue in 2001, 2002 and 2003, respectively. For LCD and other flat-panel display driver semiconductor testing and assembly services, our fixed costs represented 64%, 52% and 50% of our total cost of revenue in 2001, 2002 and 2003, respectively. Our profitability depends in part not only on absolute pricing levels for our services, but also on the utilization rates for our testing and assembly equipment, commonly referred to as capacity utilization rates. Increases or decreases in our capacity utilization rates can significantly affect our gross margins as unit costs generally decrease as the fixed costs are allocated over a larger number of units. As a result of the decline in the market demand for semiconductors that began in the fourth quarter of 2000, our average capacity utilization rate for memory and mixed-signal semiconductor testing services decreased from 77% in 2000 to 47% in 2001, our average capacity utilization rate for memory and mixed-signal semiconductor assembly services decreased from 53% in 2000 to 43% in 2001, and our average capacity utilization rate for LCD and other flat-panel display driver semiconductor testing and assembly services decreased from 50% in 2000 to 19% in 2001. For 2002, our capacity utilization rate was 69% for memory and mixed-signal semiconductor testing services, 60% for memory and mixed-signal semiconductor assembly services, and 62% for LCD and other flat-panel display driver semiconductor testing and assembly services. Due to the strong recovery of the market demand for semiconductors in 2003, our capacity utilization rate increased to 81% for memory and mixed-signal semiconductor testing services, 89% for memory and mixed-signal semiconductor assembly services, and 82% for LCD and other flat-panel display driver semiconductor testing and assembly services. If we fail to further increase or maintain our capacity utilization rates, our earnings and profitability may be adversely affected.

***The testing and assembly process is complex and our production yields and customer relationships may suffer as a result of defects or malfunctions in our testing and assembly equipment and the introduction of new packages.***

Semiconductor testing and assembly are complex processes that require significant technological and process expertise. Semiconductor testing involves sophisticated testing equipment and computer software. We develop computer software to test our customers' semiconductors. We also develop conversion software programs that enable us to test semiconductors on different types of testers. Similar to most software programs, these software programs are complex and may contain programming errors or bugs. In addition, the testing process is subject to human error by our employees who operate our testing equipment and related software. Any significant defect in our testing or conversion software, malfunction in our testing equipment or human error could reduce our production yields and damage our customer relationships.

The assembly process involves a number of steps, each of which must be completed with precision. Defective packages primarily result from:

contaminants in the manufacturing environment;

human error;

equipment malfunction;

defective raw materials; or

defective plating services.

These and other factors have, from time to time, contributed to lower production yields. They may do so in the future, particularly as we expand our capacity or change our processing steps. In addition, to be competitive, we must continue to expand our offering of packages. Our production yields on new packages typically are significantly lower than our production yields on our more established packages. Our failure to maintain high standards or acceptable production yields, if significant and prolonged, could result in a loss of customers, increased costs of

## **Table of Contents**

production, delays, substantial amounts of returned goods and related claims by customers. Further, to the extent our customers have set target production yields, we may be required to compensate our customers in a pre-agreed manner. Any of these problems could materially adversely affect our business reputation and result in reduced net revenue and profitability.

***Because of the highly cyclical nature of our industry, our capital requirements are difficult to plan. If we cannot obtain additional capital when we need it, we may not be able to maintain or increase our current growth rate and our profits will suffer.***

Our capital requirements are difficult to plan as our industry is highly cyclical and rapidly changing. To remain competitive, we will need capital to fund the expansion of our facilities as well as to fund our equipment purchases and research and development activities. We believe that our current cash and cash equivalents, cash flow from operations and available credit facilities will be sufficient to meet our working capital and capital expenditure requirements under our existing arrangements through the end of 2005, except for the investment in a new production facility in Shanghai owned by ChipMOS TECHNOLOGIES (Shanghai) LTD., or ChipMOS Shanghai, a wholly-owned subsidiary of our controlled consolidated subsidiary, Modern Mind Technology Limited, or Modern Mind. In addition, future capacity expansions or market or other developments may require additional funding. Our ability to obtain external financing in the future depends on a number of factors, many of which are beyond our control. They include:

our future financial condition, results of operations and cash flows;

general market conditions for financing activities by semiconductor testing and assembly 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 potential future profitability will suffer.

***A failure to raise sufficient funds through, or to complete, our currently proposed offering of common shares could increase the expenses related to, or delay, our efforts to restructure our control of Modern Mind and ChipMOS Shanghai and our Mainland China operations and potential future merger and acquisition activities.***

On May 21, 2004, we filed with the U.S. Securities and Exchange Commission, or SEC, a registration statement on Form F-3, as amended on June 14, 2004, with respect to the proposed offering of up to 20,125,000 common shares by ChipMOS Bermuda and up to 8,625,000 common shares by Mosel Vitelic Inc., our principal shareholder. We will not receive any of the proceeds from the sale of common shares by Mosel. We currently contemplate to use the main portion of the net proceeds from the proposed offering of common shares by ChipMOS Bermuda to finance our operations in Mainland China, and the balance to fund our working capital requirements and potential future merger and acquisition activities. We currently intend to complete the proposed offering in the third quarter of 2004, subject to market conditions. However, we may be unable to raise sufficient funds through, or to complete, the proposed offering, which could increase the expenses related to, or delay, our efforts to restructure our control of Modern Mind and ChipMOS Shanghai and our Mainland China operations and potential future merger and acquisition activities. See also [Risks Relating to Our Common Shares](#) Future sales or issuance of common shares by us or our current shareholders could depress our share price and you may suffer dilution for a discussion of further risks in connection with the proposed offering.

***If Modern Mind fails to invest an additional US\$202.5 million into ChipMOS Shanghai by July 6, 2005, ChipMOS Shanghai's business license may become automatically void and ChipMOS Shanghai may have to be liquidated, which could hurt our growth prospects and***

*potential future profitability.*

Under applicable regulations of the People's Republic of China, or PRC, and the terms of the business license of ChipMOS Shanghai, a wholly-owned subsidiary of our controlled consolidated subsidiary, Modern Mind, the business license of ChipMOS Shanghai may automatically become void and ChipMOS Shanghai may have to be liquidated if Modern Mind fails to invest an additional US\$202.5 million by July 6, 2005, unless an extension has been obtained from competent PRC regulatory authorities. We intend to use approximately US\$50 million of the net proceeds from a currently contemplated offering of our common shares as a loan to Modern Mind to fund an additional US\$50 million capital contribution to ChipMOS Shanghai primarily to finance ChipMOS Shanghai's facility construction costs. See . A failure to raise sufficient funds through, or to complete, our currently proposed offering of common shares could increase the expenses related to, or delay, our efforts to restructure our control of

## **Table of Contents**

Modern Mind and ChipMOS Shanghai and our Mainland China operations and potential future merger and acquisition activities, for risks associated with the proposed offering. We will be required to raise additional funds to meet ChipMOS Shanghai's investment commitments. Even if we have the financial resources available, we may decide not to fund the investment if it would cause Mosel to violate applicable ROC laws and regulations. See Risks Relating to Countries in Which We Conduct Operations. The investment in Mainland China by our controlled consolidated subsidiary, Modern Mind, through ChipMOS Shanghai, and the related contractual arrangements may result in Mosel violating ROC laws governing investments in Mainland China by ROC companies or persons. Any sanctions on Mosel as a result of any violation of ROC laws may cause Mosel to decrease its ownership in us significantly or cause Mosel to take other actions that may not be in the best interest of our other shareholders.

We have been advised by our PRC counsel, Shanghai Zhengnan law firm, that the relevant PRC regulatory authority is not legally obligated to, but in practice may, grant Modern Mind a grace period of no more than six months if it submits in advance an application for extending the deadlines for making the remaining investments in ChipMOS Shanghai. In 2002, when Modern Mind failed to make the initial investment of US\$37.5 million for ChipMOS Shanghai within the three-month duration of its initial business license, ChipMOS Shanghai's business license was extended for another four months, during which Modern Mind made its initial investment. However, there is no assurance that the relevant PRC regulatory authority will grant an extension or that we will be able to raise sufficient funds in a timely manner for the investment in ChipMOS Shanghai. If we are unable to obtain the funding in a timely manner or on acceptable terms or if we are unwilling to provide funding to ChipMOS Shanghai through Modern Mind, ChipMOS Shanghai may lose its business license and may have to be liquidated and our growth prospects and potential future profitability may suffer.

***Our research and development efforts may not yield profitable and commercially viable services. As a result, we may have significant short-term research and development expenses, which may not necessarily result in immediate or long-term increases in net revenue.***

Our research and development efforts may not yield commercially viable testing or assembly services. The customer qualification process for new services is conducted in various stages, which may take one or more years to complete, and during each stage there is a substantial risk that we will have to abandon a potential test or assembly service that is no longer marketable and in which we have invested significant resources. If we are unable to qualify new services, a significant amount of time will have elapsed between our investment and the receipt of any related revenues.

***Disputes over intellectual property rights could be costly, deprive us of technologies necessary for us to stay competitive, render us unable to provide some of our services and reduce our opportunities to generate revenue.***

Our ability to compete successfully and achieve future growth will depend, in part, on our ability to protect our proprietary technologies and to secure on commercially acceptable terms critical technologies that we do not own. We cannot assure you that we will be able to independently develop, or secure from any third party, the technologies required for our testing and assembly services. Our failure to successfully obtain these technologies may seriously harm our competitive position and render us unable to provide some of our services.

Our ability to compete successfully also depends on our ability to operate without infringing upon the proprietary rights of others. The semiconductor testing and assembly industry is characterized by frequent litigation regarding patent and other intellectual property rights. We may incur legal liabilities if we infringe upon the intellectual property or other proprietary rights of others. The situation is exacerbated by our inability to ascertain what patent applications have been filed in the United States or elsewhere until they are granted.

If any third party succeeds in its intellectual property infringement claims against us or our customers, we could be required to:

discontinue using the disputed process technologies, which would prevent us from offering some of our testing and assembly services;

pay substantial monetary damages;

develop non-infringing technologies, which may not be feasible; or

acquire licenses to the infringed technologies, which may not be available on commercially reasonable terms, if at all.



## **Table of Contents**

Any one of these developments could impose substantial financial and administrative burdens on us and hinder our business. Any litigation, whether as plaintiff or defendant, is costly and diverts our resources. If we fail to obtain necessary licenses or if litigation relating to patent infringement or other intellectual property matters occurs, it could prevent us from testing and assembling particular products or using particular technologies, which could reduce our opportunities to generate revenue.

***If we are unable to obtain raw materials and other necessary inputs from our suppliers in a timely and cost-effective manner, our production schedules would be delayed and we may lose customers and growth opportunities and become less profitable.***

Our operations require us to obtain sufficient quantities of raw materials at acceptable prices in a timely and cost-effective manner. We source most of our raw materials, including critical materials like leadframes, organic substrates, epoxy, gold wire and molding compound for assembly, and tapes for TCPs, from a limited group of suppliers. We purchase all of our materials on a purchase order basis and have no long-term contracts with any of our suppliers. From time to time, suppliers have extended lead times, increased the price or limited the supply of required materials to us because of market shortages. For example, we have recently seen a significant increase in the prices of leadframes, one of the raw materials that we use for leadframe-based packages. Consequently, we may, from time to time, experience difficulty in obtaining sufficient quantities of raw materials on a timely basis. In addition, from time to time, we may reject materials that do not meet our specifications, resulting in declines in output or yield. Although we typically maintain at least two suppliers for each key raw material, we cannot assure you that we will be able to obtain sufficient quantities of raw materials and other supplies of an acceptable quality in the future. It usually takes from three to six months to switch from one supplier to another, depending on the complexity of the raw material. If we begin to produce modules and subsystems, we will need significantly greater quantities and more types of raw materials and other inputs. Many of the new inputs we need to purchase will be mechanical or other non-semiconductor related products such as flat-panel displays or ink-jet printer heads. We currently do not have any arrangements with suppliers to provide the additional inputs that will be required for the modules and subsystems we currently contemplate producing. As a result, we cannot assure you that we will initially be able to purchase supplies of our non-semiconductor related inputs for our modules and subsystems. If we are unable to obtain raw materials and other necessary inputs in a timely and cost-effective manner, we may need to delay our production and delivery schedules, which may result in the loss of business and growth opportunities and could reduce our profitability.

***If we are unable to obtain additional testing and assembly equipment or facilities in a timely manner and at a reasonable cost, we may be unable to fulfill our customers' orders and may become less competitive and less profitable.***

The semiconductor testing and assembly business is capital intensive and requires significant investment in expensive equipment manufactured by a limited number of suppliers. The market for semiconductor testing and assembly 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 equipment from a limited number of suppliers in a timely and cost-effective manner. For example, we faced a shortage of testers during most of 2000 because of significant global demand, with lead times for delivery of six months or more after the date of order. Currently, the lead time for the delivery of testers for which we have placed orders has been increasing from the usual three months after the date of order. We have no binding supply agreements with any of our suppliers and we acquire our testing and assembly equipment on a purchase order basis, which exposes us to changing market conditions and other significant risks. Semiconductor testing and assembly also requires 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 negatively impact our financial condition and results of operations as well as our growth prospects.

***If we are unable to manage the expansion of our operations and resources effectively, our growth prospects may be limited and our future profitability may be reduced.***

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

We expect to continue to expand our operations and increase the number of our employees. Rapid expansion puts a strain on our managerial, technical, financial, operational and other resources. As a result of our expansion, we will need to implement additional operational and financial controls and hire and train additional personnel. We cannot assure you that we will be able to do so effectively in the future, and our failure to do so could jeopardize our expansion plans and seriously harm our operations.

-10-

## **Table of Contents**

*Our customers generally do not place purchase orders far in advance, which makes it difficult for us to predict our future revenue. As a result, we may be unable to adjust costs in a timely manner to compensate for revenue shortfalls and our results of operations may fluctuate from period to period.*

Most of our customers generally do not place purchase orders far in advance and our contracts with customers generally do not require minimum purchases of our products or services. Our customers' purchase orders have varied significantly from period to period because demand for their products is often volatile. As a result, it is difficult for us to forecast our revenue for future periods, and our results of operations may fluctuate from period to period. Moreover, our expense levels are based in part on our expectations of future revenue, and we may be unable to adjust costs in a timely manner to compensate for revenue shortfalls. We expect that in the future our revenue in any quarter will continue to be substantially dependent upon purchase orders received in that quarter. We cannot assure you that any of our customers will continue to place orders with us in the future at the same levels as in prior periods. We also cannot assure you that our customers' orders will be consistent with our expectations when we made or make the necessary investments in raw materials, labor and equipment.

*Bermuda law may be less protective of shareholder rights than laws of the United States or other jurisdictions.*

Our corporate affairs are governed by our memorandum of association, our bye-laws and laws governing corporations incorporated in Bermuda. Shareholder suits such as class actions (as these terms are understood with respect to corporations incorporated in the United States) are generally not available in Bermuda. Therefore, our shareholders may be less able under Bermuda law than they would be under the laws of the United States or other jurisdictions to protect their interests in connection with actions by our management, members of our board of directors or our controlling shareholder.

*It may be difficult to bring and enforce suits against us in the United States.*

We are incorporated in Bermuda and a majority of our directors and most of our officers are not residents of the United States. A substantial portion of our assets is located outside the United States. As a result, it may be difficult for our shareholders to serve notice of a lawsuit on us or our directors and officers within the United States. Because most of our assets are located outside the United States, it may be difficult for our shareholders to enforce in the United States judgments of United States courts. Appleby Spurling Hunter, our counsel in Bermuda, has advised us that there is some uncertainty as to the enforcement in Bermuda, in original actions or in actions for enforcement of judgments of United States courts, of liabilities predicated upon United States federal securities laws.

*Any environmental claims or failure to comply with any present or future environmental regulations, or any new environmental regulations, may require us to spend additional funds, may impose significant liability on us for present, past or future actions, and may dramatically increase the cost of providing our services to our customers.*

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 assembly process. Although we have not suffered material environmental claims in the past, a failure or a claim that we have failed 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 or negative publicity. New regulations could require us to acquire costly equipment or to incur other significant expenses. Any failure on our part to control the use of, or adequately restrict the discharge of, hazardous substances could subject us to future liabilities that may materially reduce our earnings.

*Fluctuations in exchange rates could result in foreign exchange losses.*

Currently, most of our net revenue is denominated in NT dollars. Our cost of revenue and operating expenses, on the other hand, are incurred in several currencies, including NT dollars, Japanese yen, US dollars and Renminbi, or RMB. In addition, a substantial portion of our capital expenditures, primarily for the purchase of testing and assembly equipment, has been, and is expected to continue to be, denominated in Japanese yen with much of the remainder in US dollars. We also have debt denominated in NT dollars, Japanese yen, US dollars and RMB. Fluctuations in exchange rates, primarily among the US dollar, the NT dollar and the Japanese yen, will affect our costs and operating margins in NT dollar terms. In addition, these fluctuations could result in exchange losses and increased costs in NT dollar terms. For example, we recorded foreign exchange gains of NT\$55 million in 2001 and foreign exchange losses of NT\$42 million and NT\$79 million in 2002 and 2003, respectively. Despite selective hedging and other mitigating techniques implemented by us, fluctuations in exchange rates have affected, and may continue to affect, our financial condition and results of operations.

## **Table of Contents**

*We may increase our inventory if we expand our services to manufacturing modules and subsystems, which in turn could increase our working capital requirements and subject us to increased risks of inventory losses or writedowns.*

If we expand our services to the manufacturing of modules and subsystems, such as memory modules, liquid crystal modules and ink-jet print head modules, we will need to purchase wafers, LCD panels, color filters, polarizer film, ink-jet print heads and other inputs related to our module and subsystems business. We anticipate that we will have to purchase many of these inputs in advance of our completion of the production of the corresponding module or subsystem and thus will hold some of these inputs, either alone or as part of work in progress, in inventory for a period of time. As a result, although we will try to minimize the time between purchase of the inputs and sale of the final modules or subsystems, we will be subject to the risk that the value of such inputs and work in progress will decline, perhaps significantly, prior to the completion of production and sale of the final module or subsystem. Moreover, deteriorating market conditions may result in an increase in our inventory levels, a decline in the average selling price of our products and a corresponding decrease in the stated value of our inventories. We cannot assure you that we will be able to maintain our inventories at a satisfactory level or that we will not incur losses on inventories in the future.

*We may not be successful in our acquisitions of and investments in other companies and businesses, and may therefore be unable to implement fully our business strategy.*

As part of our growth strategy, from time to time, we make acquisitions and investments in companies or businesses. For example, in 2002 and 2003, we acquired a controlling interest in Modern Mind and its wholly-owned subsidiary ChipMOS Shanghai. Furthermore, in 2002, 2003 and the first quarter of 2004, we acquired through ChipMOS Taiwan an equity interest in Chantek that was 34.2% as of April 30, 2004, an equity interest in ThaiLin Semiconductor Corp., or ThaiLin, that was 35.2% as of April 30, 2004, and an equity interest in Advanced Micro Chip Technology Co., Ltd., or AMCT, that was 99.7% as of April 30, 2004. We have merged WORLD-WIDE TEST Technology Inc., or WWT, into one of our subsidiaries, as discussed in more detail in Item 4. Information on the Company Our Structure and History ChipMOS Logic TECHNOLOGIES, INC. below. The success of our acquisitions and investments depends on a number of factors, including:

our ability to identify suitable opportunities for investment or acquisition;

our ability to reach an acquisition or investment agreement on terms that are satisfactory to us or at all;

the extent to which we are able to exercise control over the acquired company;

the economic, business or other strategic objectives and goals of the acquired company compared to those of our company; and

our ability to successfully integrate the acquired company or business with our company.

If we are unsuccessful in our acquisitions and investments, we may not be able to implement fully our business strategy to maintain or grow our business.

*Potential conflicts of interest with Siliconware Precision could interfere with our ability to conduct the operations of ChipMOS Taiwan and could result in the loss of our customers to Siliconware Precision.*

As of April 30, 2004, Siliconware Precision owned 28.7% of the outstanding equity securities of ChipMOS Taiwan. Siliconware Precision provides testing and assembly services for logic and mixed-signal semiconductors. Under the terms of the joint venture agreement between Mosel and Siliconware Precision regarding the operation of ChipMOS Taiwan, Siliconware Precision is entitled to nominate two of the seven board members of ChipMOS Taiwan. Two of ChipMOS Taiwan's current directors were appointed by Siliconware Precision. As a result, conflicts of interest between those directors' duty to Siliconware Precision and to us may arise. We cannot assure you that when such conflicts of interest arise, directors appointed by Siliconware Precision to our board will act completely in our interests or that conflicts of interest will be resolved in our favor. These conflicts may result in the loss by us of existing or potential customers to Siliconware Precision.

*We depend on key personnel, and our revenue could decrease and our costs could increase if we lose their services.*

We depend on the continued service of our executive officers and skilled engineering, technical and other personnel. We will also be required to hire a substantially greater number of skilled employees in connection with

## **Table of Contents**

our expansion plans. In particular, we depend on a number of skilled employees in connection with our LCD and other flat-panel display driver semiconductor testing and assembly services, and the competition for such employees in Taiwan and Mainland China is intense. We may not be able to either retain our present personnel or attract additional qualified personnel as and when needed. Moreover, we do not carry key person insurance for any of our executive officers nor do we have employment contracts with any of our executive officers or employees, and, as a result, none of our executive officers or employees is bound by any non-competition agreement. If we lose any of our key personnel, it could be very difficult to find and integrate replacement personnel, which could affect our ability to provide our services, resulting in reduced net revenue and earnings. In addition, we may need to increase employee compensation levels in order to retain our existing officers and employees and to attract additional personnel. Seven percent of the workforce at our facilities in Taiwan are foreign workers employed by us under work permits that are subject to government regulations on renewal and other terms. Consequently, if the regulations in Taiwan 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 reasonable cost, we may be unable to maintain or increase our level of services and may suffer reduced net revenue and earnings.

## **Risks Relating to Our Relationship with Mosel**

*Mosel exercises significant control over our company and could cause us to take actions that may not be, or refrain from taking actions that may be, in our best interest or the best interest of our other shareholders.*

As our largest shareholder, Mosel exercises significant control, and subsequent to the currently contemplated offering of common shares by ChipMOS Bermuda and Mosel, may continue to exercise significant control, over all matters submitted to our shareholders for approval and other corporate actions, such as:

election of directors;

timing and manner of dividend distributions;

approval of contracts between us and Mosel or its affiliates, which could involve conflicts of interest; and

open market purchase programs or other purchases of our common shares.

Mosel's substantial interests in our company could also:

delay, defer or prevent a change in who controls us;

discourage bids for our shares at a premium over the market price; and

adversely affect the market price of our common shares.

Moreover, because Mosel has the power to direct or influence our corporate actions, we may be required to engage in transactions that may not be agreeable to our other shareholders or that may not be in the best interest of our other shareholders.

In April 2002, ChipMOS Taiwan purchased NT\$242 million of Mosel shares, as described in more detail in the risk factor below. In April 2003, ChipMOS Taiwan purchased from third-party bondholders NT\$570 million worth of index bonds due in 2003 of Mosel, as described in more detail in Item 7. Major Shareholders and Related Party Transactions Other Related Party Transactions Mosel Vitelic Inc. If we acquire debt or other securities of Mosel in the future, there can be no assurance that we will be able to resell such securities or otherwise recoup any or all of our money used to acquire them.

*ChipMOS Taiwan entered into certain transactions that, if determined to have constituted impermissible financings or purchases of assets or equity of Mosel under ROC law, could result in the resignations of members of our management. As a result, our business operations could be disrupted and the market price of our shares could decline.*

ROC law limits the ability of a company incorporated in Taiwan to purchase any equity interest in companies, directly or indirectly, holding more than 50% of its issued and outstanding voting securities or registered capital or to provide loans or other financing to any company.

During 2002, ChipMOS Taiwan engaged in certain transactions as described in more detail in Item 7. Major Shareholders and Related Party Transactions Related Party Transactions Certain Transactions in 2002.



## Table of Contents

In addition, ChipMOS Taiwan purchased NT\$242 million worth of Mosel shares in 2002, the market value of which as of June 14, 2004 was approximately NT\$39 million. See notes 4 and 20 to our consolidated financial statements included in this annual report for details of the allowances for loss we have made in 2002 and 2003 against this and other short-term investments.

In 2003, ChipMOS Taiwan took a pledge of 2,360,000 ChipMOS Bermuda shares from Prudent Holdings Group Ltd., or Prudent, as collateral for Prudent's obligations to ChipMOS Taiwan under a credit assignment agreement, as described in more detail in Item 7. Major Shareholders and Related Party Transactions Related Party Transactions Other Related Party Transactions Best Home Corp. Ltd.

Lee and Li, our ROC counsel, has advised us that these transactions do not violate relevant ROC law provisions prohibiting a subsidiary from buying or taking collateral in shares of companies holding, directly or indirectly, more than 50% of its issued and outstanding voting securities or registered capital because Mosel's indirect interest (calculated as the product of (a) Mosel's percentage interest in ChipMOS Bermuda and (b) ChipMOS Bermuda's percentage interest in ChipMOS Taiwan) in ChipMOS Taiwan was less than 50% and ChipMOS Bermuda is incorporated outside of Taiwan. However, we understand that there is no applicable judicial precedent and there is some doubt as to how a court would rule if presented with the situation.

If it were to be determined that any of the transactions described above constituted an impermissible financing or purchase of assets of Mosel by ChipMOS Taiwan, or an impermissible purchase of Mosel's equity by ChipMOS Taiwan, or an impermissible pledge of ChipMOS Bermuda's equity to ChipMOS Taiwan, then ChipMOS Taiwan's then chairman and any responsible officers would be jointly and severally liable to ChipMOS Taiwan for any losses suffered by ChipMOS Taiwan and may also be severally liable criminally for any breach of fiduciary duties that resulted in losses and damages suffered by ChipMOS Taiwan.

Moreover, certain of these transactions may not have been in full compliance with ChipMOS Taiwan's then applicable internal procedures due to the failure to have received an appropriate valuation opinion prior to entering into such purchases. The failure to comply fully with ChipMOS Taiwan's then applicable internal procedures could constitute evidence of a failure by the then chairman of ChipMOS Taiwan and responsible officers to comply fully with their fiduciary duties, which could result in them being held criminally liable for any breach of fiduciary duties that resulted in losses and damages to ChipMOS Taiwan.

If members of our current management were held to have breached their fiduciary duties or become criminally liable for the transactions described above, they may become obliged, whether under law or otherwise, to resign from their respective positions at ChipMOS Bermuda and our affiliates. Any loss of the services of these persons could disrupt our business, damage our reputation, and cause the market price of our shares to decline.

***The ongoing criminal investigation involving Mr. Hung-Chiu Hu, our former chairman, could have a material adverse effect on our business or cause our stock price to decline.***

Mr. Hung-Chiu Hu, who resigned as our chairman on May 19, 2004 but remains as our director, is currently being investigated by the Taipei Prosecutor Office. We understand that the investigation was initiated after certain directors of Pacific Electric Wire & Cable Co. Ltd., or Pacific Electric, a company incorporated in Taiwan and, until April 28, 2004, listed on the Taiwan Stock Exchange, filed a complaint in February 2004 with the Taipei Prosecutor Office against Mr. Hu alleging that he embezzled certain corporate funds and misappropriated certain assets while he was an executive vice president and a director of Pacific Electric. Pacific Electric and its directors have also filed similar lawsuits against certain former directors and officers of Pacific Electric's subsidiaries. Mr. Hu has informed us that he believes the allegations are without merit and that he will vigorously defend himself. On March 26, 2004, Mr. Hu filed a criminal complaint for false accusation with the Taipei Prosecutor Office.

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

against one of the directors who Mr. Hu believes was involved in the filing of the complaint against him. If the Taipei Prosecutor Office decides to prosecute Mr. Hu upon concluding the investigation and if such prosecution results in a conviction of Mr. Hu by a court, Mr. Hu may be barred from acting as an officer or director of any company incorporated in Bermuda or in Taiwan, which would include ChipMOS Bermuda and ChipMOS Taiwan, respectively. Any adverse publicity from this investigation or the potential indictment or conviction of Mr. Hu could have a material adverse effect on our business or cause our stock price to decline.

-14-

## **Table of Contents**

### ***Potential conflicts of interest with our major shareholder and its affiliates may cause us to turn down orders from other customers.***

As of April 30, 2004, Mosel indirectly held a 43.7% interest in us through its wholly-owned subsidiary Giant Haven Investments Ltd., and its indirectly held subsidiary, Mou-Fu Investment Ltd. Subsequent to the currently contemplated offering of common shares by ChipMOS Bermuda and by Mosel, Mosel will indirectly hold a 24.1% interest in us (assuming no issuances of shares pursuant to share option exercises subsequent to April 30, 2004). Prior to the transfer by Mosel of all of its DRAM business in the period from July to December 2003 to its affiliate, ProMOS, Mosel designed and manufactured semiconductor products, including static random access memory, or SRAM, and flash memory. Its affiliate, ProMOS, in which Mosel held a 18.0% interest as of April 30, 2004, designs and manufactures DRAM.

Mosel, with its significant ownership interest in us, has the ability to influence our major business decisions, including the allocation of testing and assembly service capacities and the development of our testing and assembly technologies. Mosel's involvement in the semiconductor business may lead to conflicts of interest in providing testing and assembly services to our other customers. Such a situation could damage our relationship with our other customers and could encourage them to divert their business with us to our competitors. In addition, some of our directors also hold positions at Mosel. As a result, conflicts of interest between their duty to Mosel and us may arise. For an example of such a conflict of interest, see **Risks Relating to Countries in Which We Conduct Operations**. The investment in Mainland China by our controlled consolidated subsidiary, Modern Mind, through ChipMOS Shanghai, and the related contractual arrangements may result in Mosel violating ROC laws governing investments in Mainland China by ROC companies or persons. Any sanctions on Mosel as a result of any violation of ROC laws may cause Mosel to decrease its ownership in us significantly or cause Mosel to take other actions that may not be in the best interest of our other shareholders. We cannot assure you that when conflicts of interest arise, Mosel's directors on our board will act completely in our interests, or that conflicts of interest will be resolved in our favor. These conflicts may result in the loss of existing or potential customers.

### ***If Mosel experiences significant liquidity and other financial difficulties, it may pledge or sell its interests in us, which could result in a change of control in our company and could cause our stock price to decline.***

In 2000, 2001, and 2002, Mosel experienced significant liquidity and other financial difficulties. While Mosel's financial condition and results of operations have stabilized, it may need to pledge or sell our common shares to obtain additional capital if its financial condition and results of operations were again to deteriorate. Any pledge or sale of our common shares by Mosel could result in a change of control in our company and could affect the market price of our common shares.

### ***Potential defaults by Mosel under the terms of the joint venture agreement between Mosel and Siliconware Precision regarding the operation of ChipMOS Taiwan could harm our relationship with Mosel or require us to dilute our shareholding in ChipMOS Taiwan.***

Under the terms of the joint venture agreement between Mosel and Siliconware Precision regarding the operation of ChipMOS Taiwan, Mosel has agreed to cooperate with Siliconware Precision to ensure that the shares of ChipMOS Taiwan are listed on the Taiwan Stock Exchange, the GreTai Securities Market or any other stock exchange. Mosel has also agreed to maintain at least a 28.8% equity interest in ChipMOS Taiwan for five years after such listing. We currently have no plans to list ChipMOS Taiwan, and Mosel currently has no direct equity interest in ChipMOS Taiwan. There can be no assurance that Siliconware Precision may not in the future seek to enforce against Mosel its obligations under the joint venture agreement. Remedies for breaches by Mosel of, or non-compliance by Mosel with, the terms of the joint venture agreement may include damages, the right of Siliconware Precision to purchase from Mosel additional shares of ChipMOS Taiwan or the right of Siliconware Precision to sell to Mosel its shares of ChipMOS Taiwan. Any litigation or any payments that Mosel will be required to make could strain Mosel's resources or adversely affect its financial condition, which could in turn adversely affect our relationship with Mosel. Any transfer of ChipMOS Taiwan shares could affect Mosel's ownership interests in and its exercise of significant control over ChipMOS Taiwan or us. As a result of any breach by Mosel of the joint venture agreement, Siliconware Precision's right to purchase ChipMOS Taiwan shares from Mosel would be limited to the number of ChipMOS Taiwan shares then owned by Mosel, and Siliconware Precision would be entitled to require

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Mosel to purchase all of the ChipMOS Taiwan shares then owned by Siliconware Precision. There can be no assurance that resolution of any disputes between Siliconware Precision and Mosel in this regard will not have an adverse effect on our business or financial condition.

-15-

---

**Table of Contents**

**Risks Relating to Countries in Which We Conduct Operations**

*The investment in Mainland China by our controlled consolidated subsidiary, Modern Mind, through ChipMOS Shanghai, and the related contractual arrangements may result in Mosel violating ROC laws governing investments in Mainland China by ROC companies or persons. Any sanctions on Mosel as a result of any violation of ROC laws may cause Mosel to decrease its ownership in us significantly or cause Mosel to take other actions that may not be in the best interest of our other shareholders.*

ROC laws and regulations prohibit any investment by ROC entities in Mainland China in the semiconductor testing and assembly industry. Investment is defined for this purpose to mean:

establishing a new company or enterprise in Mainland China;

increasing one's equity interest in an existing company or enterprise in Mainland China;

acquiring shares of an existing company or enterprise in Mainland China, excluding shares of companies that are publicly traded; or

establishing or expanding a branch office in Mainland China.

We provide our services in Mainland China through ChipMOS Shanghai, a company incorporated under the laws of the PRC and a wholly-owned subsidiary of Modern Mind. Modern Mind is a company incorporated under the laws of the British Virgin Islands and is wholly owned by Jesper Limited, a company incorporated under the laws of the British Virgin Islands. While we do not own any equity interest in Modern Mind, we control Modern Mind through our ownership of a convertible note issued by Modern Mind, convertible into a controlling equity interest in Modern Mind at a conversion rate of one common share of Modern Mind for every US\$1.00 if repayment is not made when due. Under accounting principles that are applicable to us, Modern Mind is our controlled consolidated subsidiary. We are currently in the process of restructuring our control of ChipMOS Shanghai and our Mainland China operations, which is expected to be implemented in the third quarter of 2004. We currently expect to replace the outstanding US\$37.5 million convertible note previously issued by Modern Mind in its entirety with US\$97.5 million demand notes, with the additional amount representing a US\$60 million loan that we currently expect to extend to Modern Mind from the net proceeds of the currently contemplated offering of our common shares. The demand notes will be convertible at any time into common shares representing immediately after the conversion almost 100% of the then outstanding common shares of Modern Mind at a conversion rate of US\$1.00 for each common share of Modern Mind. In addition, we will obtain from Jesper Limited an irrevocable option to acquire the common shares of Modern Mind then owned by Jesper Limited. Payment under the demand notes will be fully and unconditionally guaranteed by Jesper Limited and secured by a security interest in the entire equity interest in Modern Mind and ChipMOS Shanghai. We are also in the process of implementing certain additional contractual arrangements with regard to ChipMOS Shanghai. Please see Item 4. Information on the Company Our Structure and History Modern Mind Technology Limited and ChipMOS TECHNOLOGIES (Shanghai) LTD. and Item 4. Information on the Company Restructuring of Our Control of Modern Mind and ChipMOS Shanghai for further details on these contractual arrangements.

As the regulations described above are applicable only to entities organized within the ROC with respect to specified investments in Mainland China made by these entities, in the opinion of Lee and Li, our ROC counsel, ChipMOS Bermuda's indirect control over ChipMOS Shanghai through the ownership of convertible notes or demand notes issued by Modern Mind and the above contemplated contractual arrangements are in compliance with all existing ROC laws and regulations. There are, however, substantial uncertainties regarding the interpretation and application of ROC laws and regulations, including the laws and regulations governing the enforcement and performance of our contractual arrangements. Accordingly, we cannot assure you that ROC regulatory authorities will not take a view contrary to the opinion of our ROC counsel.

In addition, under current applicable ROC regulations, if a company incorporated in the ROC has directly or indirectly invested in a company incorporated outside of the ROC and has controlling power over the management and operations of that non-ROC company, an investment by the non-ROC company in the PRC will constitute an investment by the ROC shareholder that is subject to ROC laws and regulations. As a result, for the purposes of these regulations, any investment (within the meaning of the ROC laws regulating investments in Mainland China) by ChipMOS Bermuda in ChipMOS Shanghai may be deemed to be an investment in Mainland China by Mosel, if Mosel is determined to have controlling power over our management and operations. While the regulations do not

---

## **Table of Contents**

define what constitutes controlling power over management and operations, we understand from our ROC counsel, Lee and Li, based on the verbal indication of officials at the Investment Commission of the ROC Ministry of Economic Affairs, or the Investment Commission, that Mosel may be considered to have controlling power over our management and operations because it owns more than 10% of our common shares and has representatives on our board of directors. Any conversion of the convertible notes or demand notes into shares of Modern Mind or other acquisition of shares of Modern Mind or ChipMOS Shanghai by ChipMOS Bermuda may be deemed an investment subject to the prohibitions described in the first paragraph of this risk factor. As a result, so long as Mosel is deemed to have controlling power over ChipMOS Bermuda's management and operations, ChipMOS Bermuda may have to choose not to convert its convertible notes or demand notes into common shares of Modern Mind in order to avoid any violations by Mosel under these regulations. As a result, any significant ownership of our common shares by Mosel could materially and adversely restrict our ability and flexibility in structuring our investment in Mainland China and thereby affect our business prospects.

If Mosel were determined to be in violation of the applicable ROC laws and regulations governing investments in Mainland China, Mosel may be ordered by the Investment Commission to cease such investment activities in Mainland China within a specified period of time and may be subject to a fine of between NT\$50,000 and NT\$25 million. Mosel could comply with the order of the Investment Commission either by causing us to terminate our investment activities in Mainland China or by taking actions that will cause Mosel to cease having controlling power over our management and operations. If Mosel does not comply with the order of the Investment Commission, the ROC government can impose on the chairman of Mosel up to two years' imprisonment, a fine of up to NT\$25 million, or both. We cannot provide any assurance that any actions taken by Mosel to address any orders by the Investment Commission will be in the best interest of our other shareholders. See Risks Relating to Our Relationship with Mosel. Potential conflicts of interest with our major shareholder and its affiliates may cause us to turn down orders from other customers. Any termination or disposal of ChipMOS Shanghai's operations in Mainland China could have a material adverse effect on our financial condition, results of operations or prospects, as well as the market price of our common shares.

***ROC laws and regulations prohibit certain technology cooperation between ROC persons or entities with PRC persons or entities, and our current technology transfer arrangements between ChipMOS Bermuda and ChipMOS Shanghai may be found to be in violation of such prohibition, which may result in the termination of such technology transfer arrangements and therefore have a material adverse effect on the operations of ChipMOS Shanghai and our financial condition and results of operations.***

ROC laws and regulations prohibit any transfer of semiconductor testing and assembly technologies to any person or entity located in Mainland China. The ROC Ministry of Economic Affairs has the ultimate administrative authority in interpreting such laws and regulations. Under a technology transfer agreement, dated August 1, 2002, ChipMOS Bermuda licensed to ChipMOS Shanghai testing and assembly-related technologies that ChipMOS Bermuda controlled at that time, which included technologies that ChipMOS Bermuda had licensed from ChipMOS Taiwan. ChipMOS Bermuda also provided technical support and consulting services under this agreement to ChipMOS Shanghai. On April 7, 2004, ChipMOS Bermuda entered into an assignment agreement with ChipMOS Taiwan, pursuant to which ChipMOS Taiwan transferred all of the technologies it owned to ChipMOS Bermuda, including those previously licensed to ChipMOS Bermuda. ChipMOS Bermuda will continue to license such technologies to ChipMOS Shanghai pursuant to the above mentioned technology transfer agreement dated August 1, 2002.

In the opinion of Lee and Li, our ROC counsel, our technology transfer arrangements after April 7, 2004 as described above are in compliance with all applicable ROC laws and regulations. However, substantial uncertainties regarding the interpretation and application of those laws and regulations exist. Accordingly, we cannot assure you that ROC regulatory authorities will not take a view contrary to the opinion of our ROC counsel.

If ChipMOS Taiwan were determined to be in violation of applicable ROC laws and regulations governing technology cooperation with PRC persons and entities, ChipMOS Taiwan may be ordered by the Investment Commission to terminate such activity within a specified period of time and may be subject to a fine of between NT\$50,000 and NT\$25 million. In addition, if ChipMOS Taiwan does not comply with the order of the Investment Commission, the ROC government can impose on the chairman of ChipMOS Taiwan up to two years' imprisonment, a fine of up to NT\$25 million, or both. Any termination of our current technology transfer to ChipMOS Shanghai could materially adversely affect our Mainland China operations and our financial condition, results of operations or prospects, as well as the market price of our common shares.





## **Table of Contents**

***Our current ownership structure and contractual arrangements and our contemplated contractual arrangements with Jesper Limited, Modern Mind and ChipMOS Shanghai may not be effective in providing operational control of our Mainland China operations.***

We provide our services in Mainland China through ChipMOS Shanghai, a wholly-owned subsidiary of Modern Mind. While we do not own any equity interest in Modern Mind, we have a controlling interest in Modern Mind through our ownership of a convertible note issued by Modern Mind. We are currently in the process of restructuring our control of ChipMOS Shanghai and the way we provide our services in Mainland China through contractual arrangements with Jesper Limited, Modern Mind, and ChipMOS Shanghai. See The investment in Mainland China by our controlled consolidated subsidiary, Modern Mind, through ChipMOS Shanghai, and the related contractual arrangements may result in Mosel violating ROC laws governing investments in Mainland China by ROC companies or persons. Any sanctions on Mosel as a result of any violation of ROC laws may cause Mosel to decrease its ownership in us significantly or cause Mosel to take other actions that may not be in the best interest of our other shareholders and Item 4. Information on the Company Our Structure and History Restructuring of Our Control of Modern Mind and ChipMOS Shanghai for further details on these contractual arrangements. These contractual arrangements, however, may not be as effective in providing control over our Mainland China operations as would direct ownership in ChipMOS Shanghai.

***Our ability to direct the operations we conduct through our subsidiaries and affiliated companies that we do not fully own may be limited by legal duties owed to other shareholders of such companies.***

We conduct almost all of our operations through companies that we do not fully own. For example, almost all of our current consolidated operations are conducted through ChipMOS Taiwan, our 70.3% subsidiary, Chantek, ChipMOS Taiwan's 34.2% subsidiary as of April 30, 2004, ThaiLin, ChipMOS Taiwan's 35.2% subsidiary as of April 30, 2004, and ChipMOS Shanghai, in which we exercise control without holding any direct or indirect equity interest. We also conduct other activities through our affiliated entities. In accordance with the various laws of the relevant jurisdictions in which our subsidiaries and affiliates are organized, each of our subsidiaries and affiliates and their respective directors owe various duties to their respective shareholders. As a result, the actions we wish our subsidiaries or affiliates to take could be in conflict with their or their directors' legal duties owed to their other shareholders. When those conflicts arise, our ability to cause our subsidiaries or affiliates to take the action we desire may be limited.

***Any future outbreak of severe acute respiratory syndrome or other new or unusual diseases may materially affect our operations and business.***

An outbreak of a contagious disease such as severe acute respiratory syndrome, for which there is no known cure or vaccine, may potentially result in a quarantine of infected employees and related persons, and affect our operations at one or more of our facilities. We cannot predict at this time the impact any future outbreak could have on our business and results of operations.

***Strained relations between the Republic of China and the People's Republic of China could negatively affect our business and the market price of our shares.***

Our principal executive offices and most of our testing and assembly facilities are located in Taiwan. The ROC has a unique international political status. The PRC regards Taiwan as a renegade province and does not recognize the legitimacy of the ROC. Although significant economic and cultural relations have been established during recent years between the ROC and the PRC, relations have often been strained. The government of the PRC has not renounced the use of military force to gain control over Taiwan, particularly under what it considers as highly provocative circumstances, such as a declaration of independence by Taiwan or the refusal by the ROC to accept the PRC's stated one China policy. Past developments in relations between the ROC and the PRC have on occasion depressed the market prices of the securities of

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Taiwanese or Taiwan related companies, including our own. Relations between the ROC and the PRC and other factors affecting military, 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.

*Any political or economic destabilization of the ROC could negatively affect our stock price, our business and results of operations.*

In the Taiwan presidential elections held on March 20, 2004, the pro-independence Democratic Progressive Party won by a very narrow margin. The losing Kuomintang-People's First Party alliance has challenged the validity

## **Table of Contents**

of the election results and a recount was conducted from May 10, 2004 to May 18, 2004, but the Taiwan High Court has not yet released the results of the recount. Since the election, the market prices of the securities of many Taiwanese and Taiwan related companies listed on the Taiwan Stock Exchange or foreign securities exchanges, including our own, have been adversely affected. There is no assurance that the uncertainty caused by the challenge to the presidential elections and the outcome of the recount will not result in further political or economic destabilization. Any further political or economic destabilization of the ROC could negatively affect our stock price, our business and results of operations.

*We are vulnerable to disasters and other events disruptive to our business and operations.*

We currently provide most of our testing services through our facilities in the Hsinchu Industrial Park and the Hsinchu Science Park in Taiwan and all of our assembly services through our facility in the Southern Taiwan Science Park in Taiwan. Significant damage or other impediments to these facilities as a result of natural disasters, industrial strikes or industrial accidents could significantly increase our operating costs.

Taiwan is particularly susceptible to earthquakes. For example, in late 1999, Taiwan suffered severe earthquakes that caused significant property damage and loss of life, particularly in the central part of Taiwan. These earthquakes damaged production facilities and adversely affected the operations of many companies involved in the semiconductor and other industries. We experienced NT\$1 million in damages to our machinery and equipment, NT\$6 million in damages to our facilities, NT\$1 million in damages to our inventory and five days of delay in our production schedule as a result of these earthquakes.

In addition, the production facilities of many of our suppliers and customers and providers of complementary semiconductor manufacturing services, including foundries, are located in Taiwan. If our customers are affected, it could result in a decline in the demand for our testing and assembly services. If our suppliers and providers of complementary semiconductor manufacturing services are affected, our production schedule could be interrupted or delayed. As a result, a major earthquake, natural disaster or other disruptive event in Taiwan could severely disrupt the normal operation of business and have a material adverse effect on our financial condition and results of operations.

## **Risks Relating to Our Holding Company Structure**

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

We are a holding company, and our most significant asset is our ownership interest in ChipMOS Taiwan. Although we control ChipMOS Shanghai through Modern Mind, we do not hold any equity interest in these entities due to ROC regulatory restrictions on investments in Mainland China. As long as we do not hold any equity interest in these entities, we are not entitled to any dividends distributed by these entities and our contractual arrangements may not effectively prevent these entities from declaring any dividends to their shareholders. Dividends we receive from our subsidiaries, if any, will be subject to taxation. The ability of our subsidiaries to pay dividends, repay intercompany loans from us or make other distributions to us is restricted by, among other things, the availability of funds, the terms of various credit arrangements entered into by our subsidiaries, as well as statutory and other legal restrictions. In addition, although there are currently no foreign exchange control regulations which restrict the ability of our subsidiaries located in Taiwan to distribute dividends to us, we cannot assure you that the relevant regulations will not be changed and that the ability of our subsidiaries to distribute dividends to us will not be restricted in the future. A Taiwan company is generally not permitted to distribute dividends or to make any other distributions to shareholders for any year in which it did not have either earnings or retained earnings (excluding reserves). In addition, before distributing a dividend to shareholders following the end of

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

a fiscal year, the company must recover any past losses, pay all outstanding taxes and set aside 10% of its annual net income (less prior years losses and outstanding taxes) as a legal reserve until the accumulated legal reserve equals its paid-in capital, and may set aside a special reserve. In addition, PRC law requires that our PRC-incorporated subsidiary only distributes dividends out of its net income, if any, as determined in accordance with PRC accounting standards and regulations. Under PRC law, it is also required to set aside at least 10% of its after-tax net income each year into its reserve fund until the accumulated legal reserve amounts to 50% of its registered capital. PRC-incorporated companies are further required to maintain a bonus and welfare fund at percentages determined at their sole discretion. The reserve fund and the bonus and welfare fund are not distributable as dividends. Any limitation on dividend payments by our subsidiaries could materially adversely affect our ability to grow, fund investments, make acquisitions, pay dividends, and otherwise fund and conduct our business.

## **Table of Contents**

*Our ability to make further investments in ChipMOS Taiwan may be dependent on regulatory approvals. If ChipMOS Taiwan is unable to receive the equity financing it requires, its ability to grow and fund its operations may be materially adversely affected.*

As ChipMOS Taiwan is not a listed company, it generally depends on us to meet its equity financing requirements. Any capital contribution by us to ChipMOS Taiwan may require the approval of the relevant ROC authorities. For example, any capital contribution by us to ChipMOS Taiwan will require the approval of the authorities of the Science Park Administration. We may not be able to obtain any such approval in the future in a timely manner, or at all. If ChipMOS Taiwan is unable to receive the equity financing it requires, its ability to grow and fund its operations may be materially adversely affected.

## **Risks Relating to Our Common Shares**

*Our common shares are subject to removal from the Nasdaq National Market if our common shares fail to maintain a minimum bid price of US\$1.00.*

Under the rules of the Nasdaq National Market, our common shares are subject to removal if the minimum bid price for our common shares fails to remain at or above US\$1.00 for a period of 30 consecutive business days. On six days in May 2003, the market price of our common shares dropped below US\$1.00. We can give no assurance that the bid price of our common shares will remain above US\$1.00.

*Volatility in the price of our common shares may result in shareholder litigation that could in turn result in substantial costs and a diversion of our management's attention and resources.*

The financial markets in the United States and other countries have experienced significant price and volume fluctuations, and market prices of technology companies have been and continue to be extremely volatile. Volatility in the price of our common shares may be caused by factors outside of our control and may be unrelated or disproportionate to our results of operations. In the past, following periods of volatility in the market price of a public company's securities, shareholders have frequently instituted securities class action litigation against that company. Litigation of this kind could result in substantial costs and a diversion of our management's attention and resources.

*Certain provisions in our bye-laws make the acquisition of us by another company more difficult and therefore may delay, defer or prevent a change of control.*

Our bye-laws provide that our board of directors is divided into three classes of directors, each class to be re-elected only once every three years. As a result, shareholders would not generally be able to replace a majority of the directors until after two annual general meetings. In addition, any extraordinary corporate transaction such as a merger, amalgamation or consolidation, or a sale or transfer of all or substantially all of our assets, cannot be done without the approval of shareholders representing 70% of all votes present at a general meeting called to consider such extraordinary transaction.

*Future sales or issuance of common shares by us or our current shareholders could depress our share price and you may suffer dilution.*

Sales of substantial amounts of shares in the public market, or the perception that future sales may occur following the quotation of our common shares on the Nasdaq National Market, could depress the prevailing market price of our shares. As of April 30, 2004, we had approximately 60 million shares outstanding, approximately 21 million shares of which are currently freely tradeable within the United States without restriction or further registration under the Securities Act of 1933. On May 21, 2004, we filed with the U.S. Securities and Exchange Commission, or SEC, a registration statement on Form F-3, as amended on June 14, 2004, with respect to the proposed offering of up to 20,125,000 common shares by ChipMOS Bermuda and up to 8,625,000 common shares by Mosel Vitelic Inc., our principal shareholder. We currently intend to complete the proposed offering in the third quarter of 2004, subject to market conditions.

In addition, we plan to issue, from time to time, additional shares in connection with employee compensation and to finance possible future investments or acquisitions. The issuance of additional shares may have a dilutive effect on other shareholders and may cause the price of our common shares to decrease. See Item 6. Directors, Senior Management and Employees Share Option Plan for a discussion of the Share Option Plan that we have adopted for the benefit of all of our directors, officers, employees and consultants.

## **Table of Contents**

### **Item 4. Information on the Company**

#### **Overview**

#### **Introduction**

We believe that we are one of the leading independent providers of semiconductor testing and assembly services. Specifically, we believe that we are the largest independent provider of testing and assembly services for LCD and other flat-panel display driver semiconductors globally and a leading provider of testing and assembly services for advanced memory products in Taiwan. The depth of our engineering expertise and the breadth of our testing and assembly technologies enable us to provide our customers with advanced and comprehensive solutions. In addition, our geographic presence in Taiwan and Mainland China is attractive to customers wishing to take advantage of the logistical and cost efficiencies stemming from our close proximity to foundries and producers of consumer electronic products in Taiwan and Mainland China. Our production facilities are located in Hsinchu and Tainan, Taiwan and Shanghai, Mainland China.

#### **Industry Background**

##### *Semiconductor Industry Trends*

Growth in the semiconductor industry is largely driven by end-user demand for consumer electronics, communications equipment and computers, for which semiconductors are critical components. Highly cyclical, the worldwide semiconductor industry has experienced peaks and troughs over the last decade, with a severe downturn at the end of 2000 that was followed by a modest recovery in late 2002. Since then, the industry has continued to expand and is expected to continue its growth over the next few years, driven by overall global GDP growth, increased information technology spending, and demand for new and improved electronic products and applications, along with further improvements in the cost, performance, speed and size of semiconductors.

##### *Selected Key Semiconductor Markets*

Various sectors of the semiconductor industry are expected to benefit from the anticipated growth in demand for new and improved electronic products and applications. These sectors include the memory semiconductor market, the LCD and other flat-panel display driver semiconductor market and the mixed-signal semiconductor market.

##### *Memory Semiconductor Market*

The memory market is expected to grow as memory content in consumer electronics and PC applications increases due to increasing operating system requirements, increasing use of graphics in gaming and other applications, continued growth of broadband content and a transition to

64-bit PC architecture. The memory market is dominated by two segments – DRAM and flash memory. Growth in the DRAM market is expected to be driven by an increase in PC unit shipments and wireless handsets that use multi-chip packages. The flash memory market is expected to continue to experience strong growth due to increasing memory requirements for cellular handsets, digital cameras and digital audio devices.

*LCD and Other Flat-Panel Display Driver Semiconductor Market*

Flat-panel displays are used in applications such as PC monitors, notebook computers, television sets, cellular handsets and digital cameras. Thin-film-transistor LCDs, or TFT-LCDs, account for about three-fourths of the flat-panel display market.



**Table of Contents**

We currently expect the market for LCD and other flat-panel display driver semiconductors, which are semiconductors that control flat panels, to grow significantly due to increasing demand for flat-panel displays.

*Mixed-Signal Semiconductor Market*

The communications market is one of the main drivers of growth in the semiconductor industry. Mixed-signal semiconductors, which are chips with analog functionality covering more than half of the chip area, are largely used in the communications market. The increasing use of digital technology in communications equipment requires chips with both digital and analog functionality for applications such as modems, network routers, switches, cable set-top boxes and cellular handsets. As the size and cost of cellular handsets and other communications-related devices have decreased, components have increased in complexity. Mixed-signal semiconductors, such as LCD controllers and DVD controllers, are also used in consumer electronic products.

*Overview of the Semiconductor Manufacturing Process*

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

<b>Process</b>	<b>Description</b>
Circuit Design	The design of a semiconductor is developed by laying out circuit patterns and interconnections.
Wafer Fabrication	Wafer fabrication begins with the generation of a photomask, a photographic negative onto which a circuit design pattern is etched or transferred by an electron beam or laser beam writer. Each completed wafer contains many fabricated chips, each known as a die.
Wafer Probe	Each individual die is then electrically tested, or probed, for defects. Dies that fail this test are discarded, or, in some cases, salvaged using laser repair.
Assembly	The assembly of semiconductors serves to protect the die, facilitates its integration into electronic systems and enables the dissipation of heat. The process begins with the dicing of the wafers into chips. Each die is affixed to a leadframe-based or organic substrate-based package. Then, electrical connections are formed, in many cases by connecting the terminals on the die to the inner leads of the package using fine metal wires. Finally, each chip is encapsulated for protection, usually in a molded epoxy enclosure.
Final Test	Assembled semiconductors are tested to ensure that the device meets performance specifications. Testing takes place on specialized equipment using software customized for each application. For memory semiconductors, this process also includes burn-in testing to screen out defective devices by applying very high temperatures and voltages.

## **Table of Contents**

### ***Outsourcing Trends in Semiconductor Manufacturing***

Historically, integrated device manufacturers, or IDMs, designed, manufactured, tested and assembled semiconductors primarily at their own facilities. In recent years, there has been a trend in the industry to outsource stages in the manufacturing process to reduce the high fixed costs resulting from the increasingly complex manufacturing process. Virtually every significant stage of the manufacturing process can be outsourced. The independent semiconductor manufacturing services market currently consists of wafer fabrication and probing services and semiconductor testing and assembly services. Most of the world's major IDMs now use some independent semiconductor manufacturing services to maintain a strategic mix of internal and external manufacturing capacity. We believe that many of these IDMs are significantly reducing their investments in new semiconductor testing and assembly facilities. The availability of technologically advanced independent semiconductor manufacturing services has also enabled the growth of fabless semiconductor companies that focus exclusively on semiconductor design and marketing and outsource their fabrication, testing and assembly requirements to independent companies.

We believe the outsourcing of semiconductor manufacturing services, and in particular of testing and assembly services, will increase for many reasons, including the following:

*Significant Capital Expenditure Requirements.* Driven by increasingly sophisticated technological requirements, wafer fabrication, testing and assembly processes have become highly complex, requiring substantial investment in specialized equipment and facilities and sophisticated engineering and manufacturing expertise. In addition, product life cycles have been shortening, magnifying the need to continually upgrade or replace manufacturing, testing and assembly equipment to accommodate new products. As a result, new investments in in-house fabrication, testing and assembly facilities are becoming less desirable for IDMs because of the high investment costs, as well as difficulties in achieving sufficient economies of scale and utilization rates to be competitive with the independent service providers. Independent foundry, testing and assembly 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.

*Increasing Focus on Core Competencies.* As the costs of semiconductor manufacturing facilities increase, semiconductor companies are expected to further outsource their wafer fabrication, testing and assembly requirements to focus their resources on core competencies, such as semiconductor design and marketing.

*Time-to-Market Pressure.* Increasingly short product life cycles have amplified time-to-market pressure for semiconductor companies, leading them to rely increasingly on independent companies as a key source for effective wafer fabrication, testing and assembly services.

### ***Semiconductor Testing and Assembly Services Industry***

Growth in the semiconductor testing and assembly services industry is driven by increased outsourcing of the various stages of the semiconductor manufacturing process by IDMs and fabless semiconductor companies.

## **Table of Contents**

### ***The Semiconductor Industry and Conditions of Outsourcing in Taiwan and Mainland China***

Taiwan is one of the world's leading locations for outsourced semiconductor manufacturing. The semiconductor industry in Taiwan has developed such that the various stages of the semiconductor manufacturing process have been disaggregated, thus allowing for specialization. The disaggregation of the semiconductor manufacturing process in Taiwan permits these semiconductor manufacturing service providers to focus on particular parts of the production process, develop economies of scale, maintain higher capacity utilization rates and remain flexible in responding to customer needs. There are several leading service providers in Taiwan, each of which offers substantial capacity, high-quality manufacturing, leading semiconductor wafer fabrication, test, assembly and process technologies, and a full range of services. These service providers have access to an educated labor pool and a large number of engineers suitable for sophisticated manufacturing industries. As a result, many of the world's leading semiconductor companies outsource some or all of their semiconductor manufacturing needs to Taiwan's semiconductor manufacturing service providers and take advantage of the close proximity among facilities. In addition, companies located in Taiwan are very active in the design and manufacture of electronic systems, which has created significant local demand for semiconductor devices.

Mainland China is emerging as a similarly attractive location for outsourced semiconductor manufacturing. Mainland China is an attractive manufacturing location for electronic products because companies can take advantage of a well-educated yet low-cost labor force, cost savings due to tax benefits and a large domestic market. These factors have driven a rapid relocation of much of the electronics industry manufacturing and supply chain to Mainland China. An increasing number of global electronic systems manufacturers and contract manufacturers are relocating production facilities to Mainland China. We believe that these electronic product manufacturers and contract manufacturers will source an increasing portion of their demand for semiconductors from semiconductor suppliers located in Mainland China in order to reduce production cycle times, decrease costs, simplify supply chain logistics and meet local content requirements.

### **Overview of the Company**

We provide a broad range of back-end testing services, including engineering testing, wafer probing and final testing of memory and mixed-signal semiconductors. We also offer a broad selection of leadframe-based and organic substrate-based package assembly services for memory and mixed-signal semiconductors. Our advanced leadframe-based packages include thin small outline packages, or TSOPs, and our advanced organic substrate-based packages include fine-pitch ball grid array, or fine-pitch BGA, packages. In addition, we provide testing and assembly services for LCD and other flat-panel display driver semiconductors by employing tape carrier package, or TCP, chip-on-film, or COF, and chip-on-glass, or COG, technologies. We also provide semiconductor turnkey services by purchasing fabricated wafers and then selling tested and assembled semiconductors, primarily memory products.

Semiconductors tested and assembled by us are used in personal computers, graphics applications, such as game consoles and personal digital assistants, or PDAs, communications equipment, such as cellular handsets, and consumer electronic products and display applications, such as flat-panel displays. In 2003, 35% of our net revenue was from testing services for memory and mixed-signal semiconductors, 30% from assembly services for memory and mixed-signal semiconductors, 19% from LCD and other flat-panel display driver semiconductor testing and assembly services and 16% from semiconductor turnkey services.

### **Our Structure and History**

We are a holding company, incorporated under the laws of Bermuda in August 2000. We provide most of our services in Taiwan through our majority-owned subsidiary, ChipMOS TECHNOLOGIES INC., or ChipMOS Taiwan, and its subsidiaries and investees. We also provide

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

services in Mainland China through ChipMOS TECHNOLOGIES (Shanghai) LTD., or ChipMOS Shanghai, a wholly-owned subsidiary of Modern Mind Technology Limited, or Modern Mind, which is one of our controlled consolidated subsidiaries. As of April 30, 2004, Mosel Vitelic Inc., or Mosel, indirectly owned approximately 43.7% of our common shares.

**Table of Contents**

The following chart illustrates our corporate structure and our equity interest in each of our principal subsidiaries and affiliates as of April 30, 2004.<sup>(1)</sup>

- 
- (1) Under ROC Financial Accounting Standards and the regulations of the Taiwan Securities and Futures Commission, we are required to consolidate the financial results of any subsidiaries in which we hold a controlling interest or voting interest in excess of 50%. In 2001, we consolidated the financial results of ChipMOS Taiwan and its 100% owned subsidiaries, ChipMOS Japan and ChipMOS USA. In 2002 and 2003, we consolidated the financial results of ChipMOS Far East Limited, or ChipMOS Far East, Modern Mind and its wholly-owned subsidiary, ChipMOS Shanghai. In 2003, we also consolidated the financial results of ThaiLin. From January 12 and 28, 2004, onwards, we also consolidate the financial results of Advanced Micro ChipTechnology Co., Ltd., or AMCT, and ChipMOS Logic TECHNOLOGIES INC., or ChipMOS Logic, respectively, and from April 1, 2004, onwards, we also consolidate the financial results of CHANTEK ELECTRONIC CO., LTD., or Chantek.
  - (2) We control Modern Mind through our ownership of a convertible note issued by Modern Mind that may be converted into a controlling equity interest in Modern Mind. We do not currently own any equity interest in Modern Mind. ChipMOS Shanghai is a wholly-owned subsidiary of Modern Mind. We are currently in the process of restructuring our control of Modern Mind and ChipMOS Shanghai. See Restructuring of Our Control of Modern Mind and ChipMOS Shanghai below for further details.
  - (3) As of December 31, 2003, ChipMOS Taiwan held a 30.8% equity interest in AMCT. Through additional acquisitions of shares of AMCT in January, February and March 2004, ChipMOS Taiwan increased its equity interest to 99.7% as of April 30, 2004.
  - (4) As of December 31, 2003, Chantek held a 38.5% equity interest in AMCT. As of December 31, 2003, ChipMOS Taiwan held a 25.0% equity interest in PlusMOS TECHNOLOGIES Inc., or PlusMOS, and PlusMOS held a 12.0% equity interest in Chantek. See CHANTEK ELECTRONIC CO., LTD. below for a description of the acquisition of PlusMOS by Chantek effective April 1, 2004.
  - (5) As of December 31, 2003, ChipMOS Taiwan held a 36.5% equity interest in ThaiLin.

Below is a description of our principal consolidated subsidiaries:

**ChipMOS TECHNOLOGIES INC.** ChipMOS Taiwan was incorporated in Taiwan in July 1997 as a joint venture company of Mosel and Siliconware Precision and with the participation of other investors. Its operations consist of the testing and assembly of semiconductors. ChipMOS Taiwan also provides testing and assembly services on a turnkey basis, which entails ChipMOS Taiwan purchasing fabricated wafers and then selling tested and assembled semiconductors. We acquired our interest in ChipMOS Taiwan by issuing our common shares to ChipMOS Taiwan's shareholders in exchange for their 70.3% shareholding in ChipMOS Taiwan in January 2001. In October 2001, ChipMOS Taiwan issued 6,911,732 common shares as employee bonuses. In December 2002, we issued 531,175 common shares in exchange for 5,633,442 ChipMOS Taiwan common shares held by these employees. As of April 30, 2004, we held 70.3% of the outstanding common shares of ChipMOS Taiwan and Siliconware Precision held 28.7%.

---

**Table of Contents**

**ChipMOS Far East Limited.** ChipMOS Far East (formerly Leader Partner Limited) was incorporated in Hong Kong in November 2002. It is engaged in financial management and marketing and sales. As of April 30, 2004, we held 100% of the outstanding common shares of ChipMOS Far East.

**Modern Mind Technology Limited and ChipMOS TECHNOLOGIES (Shanghai) LTD.** Modern Mind was incorporated in the British Virgin Islands in January 2002. Modern Mind conducts its operations through ChipMOS Shanghai, a wholly-owned subsidiary incorporated in Mainland China in June 2002. ChipMOS Shanghai is engaged in wafer testing, semiconductor assembly and testing, and module and subsystem manufacturing. We acquired a 100% equity interest in Modern Mind on December 12, 2002, and then transferred it to Jesper Limited on December 31, 2002. In 2002 and 2003, we acquired from Jesper Limited a convertible note in the amount of US\$37.5 million issued by Modern Mind that may be converted into a controlling equity interest in Modern Mind at a conversion rate of one ordinary share of Modern Mind for every US\$1.00 if the repayment is not made when due. See Restructuring of Our Control of Modern Mind and ChipMOS Shanghai for a detailed discussion of the restructuring of our interest in Modern Mind and ChipMOS Shanghai and the related agreements.

**ThaiLin Semiconductor Corp.** ThaiLin was incorporated in Taiwan in May 1996, and is listed on the GreTai Securities Market in Taiwan. It is engaged in the provision of semiconductor testing services. ChipMOS Taiwan acquired a 41.8% interest in ThaiLin in December 2002. As of April 30, 2004, ChipMOS Taiwan held a 35.2% interest in ThaiLin. Under applicable accounting principles, ThaiLin was consolidated into our consolidated financial statements in 2003 because ChipMOS Taiwan was deemed to exert significant control over ThaiLin through common directors and management. Mr. S.J. Cheng, our chief executive officer and director and the director and chairman of ChipMOS Taiwan is also a director and the chairman of ThaiLin. In addition, four of the seven directors of ThaiLin are also our directors, and one of the vice presidents of ChipMOS Taiwan is also the president of ThaiLin. ThaiLin currently plans to conduct a NT\$1,000 million convertible bond offering in June 2004 and a rights issue of approximately 20million common shares in July 2004. ChipMOS Taiwan currently intends to participate in these offerings in order to maintain its percentage ownership in ThaiLin.

**Advanced Micro Chip Technology Co., Ltd.** AMCT was incorporated in Taiwan in March 2000. It provides gold bumping services, which are used in connection with the assembly of LCD and other flat-panel display driver semiconductors. In February 2003, ChipMOS Taiwan acquired a 23.1% interest in AMCT and increased its ownership during 2003 to 30.8% as of December 31, 2003. ChipMOS Taiwan purchased additional interests in AMCT in January, February and March 2004. As a result, ChipMOS Taiwan held a 99.7% equity interest in AMCT as of April 30, 2004. ChipMOS Taiwan completed the integration of all of AMCT's business operations into ChipMOS Taiwan in April 2004 and expects to liquidate AMCT in August 2004.

**CHANTEK ELECTRONIC CO., LTD.** Chantek was incorporated in Taiwan in May 1989 and is listed on the GreTai Securities Market in Taiwan. It provides semiconductor assembly services for low-density volatile and non-volatile memory semiconductors, consumer semiconductors and microcontroller semiconductors. ChipMOS Taiwan acquired its ownership interest in Chantek in September 2002.

PlusMOS Technologies Inc., or PlusMOS, was incorporated in Taiwan in March 2000 as a joint venture between ChipMOS Taiwan and Mosel for the manufacture, design and sale of DRAM modules. As of March 31, 2004, ChipMOS Taiwan held a 34.0% interest in Chantek, and PlusMOS owned a 12.0% interest.

On April 1, 2004, PlusMOS was merged into Chantek in a stock-for-stock merger pursuant to which shareholders of PlusMOS received 1.1 common shares of Chantek in exchange for one common share of PlusMOS. The merger was approved by the shareholders of Chantek and PlusMOS in December 2003. Upon consummation of this merger, ChipMOS Taiwan held a 34.2% interest in Chantek, which is the surviving entity. As a result, ChipMOS Taiwan became the controlling shareholder of Chantek. Under applicable accounting principles, we are required to consolidate Chantek subsequent to its merger with PlusMOS.

**ChipMOS Logic TECHNOLOGIES INC.** ChipMOS Logic was incorporated in Taiwan in January 2004, with ChipMOS Taiwan holding a 62.5% interest and ThaiLin holding a 37.5% interest. ChipMOS Logic is engaged in logic testing services. On April 30, 2004, WWT, a Taiwan-based company engaged in logic testing services, merged into ChipMOS Logic, with ChipMOS Logic as the surviving entity, in a stock-for-stock merger pursuant to which shareholders of WWT received one common share of ChipMOS Logic in exchange for 10 common shares of WWT. Upon consummation of the merger between WWT and ChipMOS Logic, ChipMOS Taiwan and ThaiLin owned approximately 52.9% and 24.6%, respectively, of ChipMOS Logic, with the original management team of WWT, two original shareholders of WWT, including one creditor bank, and the management team of ChipMOS Logic owning the remaining interest.

## **Table of Contents**

### **Restructuring of Our Control of Modern Mind and ChipMOS Shanghai**

We are currently in the process of restructuring our control of ChipMOS Shanghai and our Mainland China operations, which is expected to be implemented in the third quarter of 2004. We currently expect to replace the outstanding US\$37.5 million convertible note previously issued by Modern Mind in its entirety with US\$97.5 million demand notes, with the difference representing a US\$60 million loan that we currently expect to extend to Modern Mind from the net proceeds of the currently contemplated offering of our common shares. The demand notes will be convertible at any time into common shares representing, immediately after the conversion, almost 100% of the then outstanding common shares of Modern Mind at a conversion rate of US\$1.00 for each common share of Modern Mind. In addition, we will obtain from Jesper Limited an irrevocable option to acquire the common shares of Modern Mind then owned by Jesper Limited. Payment under the demand notes will be fully and unconditionally guaranteed by Jesper Limited and secured by a security interest in the entire equity interest in Modern Mind and ChipMOS Shanghai. In addition, on April 22, 2004, ChipMOS Far East and ChipMOS Shanghai entered into an exclusive services agreement, pursuant to which ChipMOS Shanghai will provide its services exclusively to ChipMOS Far East or customers designated by ChipMOS Far East. Under the exclusive services agreement, ChipMOS Far East will purchase and consign to ChipMOS Shanghai all of the equipment required to render those services. We intend to use approximately US\$60 million from the net proceeds of the currently contemplated offering of our common shares to finance ChipMOS Far East's purchase of the equipment. See Item 3. Key Information Risk Factors Risks Relating to Countries in Which We Conduct Operations The investments in Mainland China by our controlled consolidated subsidiary, Modern Mind, through ChipMOS Shanghai, and the related contractual arrangements may result in Mosel violating ROC laws governing investment in Mainland China by ROC companies or persons. Any sanctions on Mosel as a result of any violation of ROC laws may cause Mosel to decrease its ownership in us significantly or cause Mosel to take other actions that may not be in the best interest of our other shareholders and Item 3. Key Information Risk Factors Risks Relating to Countries in Which We Conduct Operations Our current ownership structure and contractual arrangements and our contemplated contractual arrangements with Jesper Limited, Modern Mind and ChipMOS Shanghai may not be effective in providing operational control of our Mainland China operations for risks associated with our investment in Mainland China and these contractual arrangements.

### **Our Strategy**

Our goal is to reinforce our position as a leading independent provider of semiconductor testing and assembly services, concentrating principally on memory, mixed-signal and LCD and other flat-panel display driver semiconductors. The principal components of our business strategy are set forth below.

#### ***Focus on Providing Our Services to the High-Growth Segments of the Semiconductor Industry.***

We intend to continue our focus on developing and providing advanced testing and assembly services for high-growth segments of the semiconductor industry, such as memory, mixed-signal and LCD and other flat-panel display driver semiconductors. In 2003, our revenue from testing and assembly of semiconductors for these segments accounted for 84% of our net revenue. We believe that our investments in equipment and research and development in some of these areas allow us to offer a differentiated service from our competition. In order to continue to benefit from the expected growth in these segments, we intend to continue to invest in capacity to meet the testing and assembly requirements of these key semiconductor market segments.

#### ***Continue to Invest in the Research and Development of Advanced Testing and Assembly Technologies.***

We believe that our ability to provide progressively more advanced testing and assembly services to customers is critical to our business. In addition, advanced semiconductor testing and assembly services typically generate higher margins due to the greater expertise required and the



## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

more sophisticated technologies used. We will continue to invest in the research and development of advanced testing and assembly technologies. For example, we are expanding our capabilities in fine-pitch BGA and the testing and assembly of TCPs. We have also introduced COF based on our proprietary technology and COG testing and assembly services for LCD and other flat-panel display driver semiconductors.

-27-

## **Table of Contents**

In addition, we will continue to pursue the development of new testing and assembly technologies jointly with domestic and foreign research institutions and universities. We expect to focus our research and development efforts in the following areas:

developing new software conversion programs to increase the capabilities of our testers;

developing technologies for wafer-level burn-in and testing before assembly;

acquiring three-dimensional technology and flip-chip assembly capabilities, which provide numerous size and performance advantages compared with traditional (face-up) configurations;

improving manufacturing yields for new assembly technologies; and

developing environmentally friendly assembly services that focus on eliminating the lead and halogen elements from the materials employed in the package and reducing the toxicity of gaseous chemical wastes.

In 2003, we spent approximately 3% of our net revenue on research and development. We will continue to invest our resources to recruit and retain experienced research and development personnel. Our research and development team currently comprises 180 persons, more than 30 of whom have advanced degrees in electrical engineering or other related disciplines.

### ***Build on Our Strong Presence in Taiwan and Expand Our Operations in Mainland China.***

We intend to build on our strong presence in key centers of semiconductor and electronics manufacturing to further grow our business. Currently, most of our operations are in Taiwan, one of the world's leading locations for outsourced semiconductor manufacturing. This presence provides us with several advantages. First, our proximity to other semiconductor companies is attractive to customers who wish to outsource various stages of the semiconductor manufacturing process. Second, our proximity to many of our suppliers, customers and the end-users of our customers' products enables us to be involved in the early stages of the semiconductor design process, enhances our ability to quickly respond to our customers' changing requirements and shortens our customers' time-to-market. Third, we have access to an educated labor pool and a large number of engineers who are able to work closely with our customers and other providers of semiconductor manufacturing services.

As with our operations in Taiwan, we intend to similarly benefit from our operations in Mainland China through ChipMOS Shanghai. We intend to invest in and expand our operations in Mainland China, increasing our testing and assembly services for memory semiconductors. We also plan to expand our testing and assembly services in our Shanghai facility to include LCD and other flat-panel display driver semiconductors.

### ***Expand Our Offering of Vertically Integrated Services.***

We believe that one of our competitive strengths is our ability to provide vertically integrated services to our customers. Vertically integrated services consist of the integrated testing, assembly and direct shipment of semiconductors to end-users designated by our customers. Providing vertically integrated services enables us to shorten lead times for our customers. As time-to-market and cost increasingly become sources of competitive advantage for our customers, they increasingly value our ability to provide them with comprehensive back-end services. Through

ThaiLin and Chantek, we are able to offer vertically integrated services for a broad range of products, including memory, mixed-signal and LCD and other flat-panel display driver semiconductors. We believe that these affiliations, which offer complementary technologies, products and services as well as additional capacity, will continue to enhance our own development and expansion efforts into new and high-growth markets. We intend to establish new alliances with leading companies and, if suitable opportunities arise, engage in merger and acquisition activities that will further expand the services we can provide.

*Focus on Increasing Sales through Long-Term Agreements with New and Existing Customers.*

From time to time, we strategically agree to commit a portion of our testing and assembly capacity to certain of our customers. We intend to enter into long-term capacity agreements with more of our existing customers, as well as diversify our customer base by entering into long-term agreements with new customers. The customers we currently have long-term agreements with include DenMOS, ProMOS, Himax Technologies, Inc., or Himax, Novatek Microelectronics Corp., or Novatek, and Oki Electric Industry Co., Ltd., or Oki. See Customers for a more detailed discussion of these long-term agreements. We believe that these long-term agreements help to insulate us from volatility in our capacity utilization rates and help us develop close relationships with our customers. Under these long-term agreements, we have reserved 62% of our total current capacity through 2005 and 2006 in exchange for commitments to place orders in the amount of the allocated capacity.

**Table of Contents****Principal Products and Services**

The following table presents, for the periods shown, revenue by service segment as a percentage of our net revenue.

	Year ended December 31,		
	2001	2002	2003
<b>Testing</b>			
Memory testing revenue	40.8%	34.5%	32.1%
Mixed-signal testing revenue	2.0	1.2	2.9
Total testing revenue	42.8	35.7	35.0
<b>Assembly</b>			
Memory assembly revenue	30.7	21.5	29.9
Mixed-signal assembly revenue	0.0	0.2	0.3
Total assembly revenue	30.7	21.7	30.2
LCD and other flat-panel display driver semiconductor testing and assembly revenue	2.5	15.2	18.7
Semiconductor turnkey revenue <sup>(1)</sup>	24.0	27.4	16.1
<b>Total net revenue</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

(1) In 2003, includes trading revenue generated by ChipMOS Far East.

**Memory and Mixed-Signal Semiconductors****Testing**

We provide testing services for memory and mixed-signal semiconductors:

**Memory.** We provide testing services for a variety of memory semiconductors, such as SRAM, DRAM and flash memory. To speed up the time-consuming process of memory product testing, we provide multi-site testing, which can test up to 128 devices simultaneously. The memory semiconductors we test are used primarily in personal notebook computers and handheld consumer electronic devices and wireless communication devices.

**Mixed-Signal.** We conduct tests on a wide variety of mixed-signal semiconductors, with lead counts ranging from the single digits to over 640 and operating frequencies of up to 600 MHz. The semiconductors we test include those used for networking and wireless communications, data communications, graphics and disk controllers for home entertainment and personal computer applications. We also test a variety of application specific integrated circuits, or ASICs, for applications such as cellular handsets, digital still cameras and personal digital assistants.

The following is a description of our pre-assembly testing services:

*Engineering Testing.* We provide engineering testing services, including software program development, electrical design validation, reliability and failure analyses.

*Software Program Development.* Design and test engineers develop a customized software program and related hardware to test semiconductors on advanced testing equipment. A customized software program is required to test the conformity of each particular semiconductor to its particular function and specification.

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

## **Table of Contents**

*Reliability Analysis.* Reliability analysis is designed to assess the long-term reliability of the semiconductor and its suitability of use for its intended applications. Reliability testing may include operating-life evaluation, during which the semiconductor is subjected to high temperature and voltage tests.

*Failure Analysis.* If the prototype semiconductor does not perform to specifications during either the electrical validation or reliability analysis process, failure analysis is performed to determine the reasons for the failure. As part of this analysis, the prototype semiconductor may be subjected to a variety of tests, including electron beam probing and electrical testing.

*Wafer Probing.* Wafer probing is the step immediately before the assembly of semiconductors and involves visual inspection and electrical testing of the processed wafer for defects to ensure that it meets our customer's specifications. Wafer probing employs sophisticated design and manufacturing technologies to connect the terminals of each chip for testing. Defective chips are marked on the surface or memorized in an electronic file, known as a mapping file, to facilitate subsequent processing.

*Laser Repairing.* In laser repairing of memory products, specific poly or metal fuses are blown after wafer probing to enable a spare row or column of a memory cell to replace a defective memory cell.

After assembly, we perform the following testing services:

*Burn-In Testing.* This process screens out unreliable products using high temperature, high voltage and prolonged stress to ensure that finished products will survive a long period of end-user service. This process is used only for memory products.

*Top Marking.* By using either a laser marker or an ink marker, we mark products according to our customer's specifications, including the logo, product type, date code and lot number.

*Final Testing.* Assembled semiconductors are tested to ensure that the devices meet performance specifications. Tests are conducted using specialized equipment with software customized for each application in different temperature conditions ranging from minus 45 degrees celsius to 85 degrees celsius. One of the tests includes speed testing to classify the parts into different speed grades.

*Final Inspection and Packing.* Final inspection involves visual or auto-inspection of the devices to check for any bent leads, inaccurate markings or other construction defects. Packing involves dry packing, packing-in-tube and tape and reel. Dry pack involves heating semiconductors in the tray at 125 to 150 degrees celsius for about two hours to remove the moisture before the semiconductors are vacuum-sealed in an aluminum bag. Packing-in-tube involves packing the semiconductors in anti-static tubes for shipment. Tape and reel pack involves transferring semiconductors from a tray or tube onto an anti-static embossed tape and rolling the tape onto a reel for shipment to customers.

## ***Assembly***

Our assembly services generally involve the following steps:

<i>Wafer Lapping</i>	The wafers are ground to their required thickness.
<i>Die Saw</i>	Wafers are cut into individual dies, or chips, in preparation for the die-attach process.
<i>Die Attach</i>	Each individual die is attached to the leadframe or substrate.
<i>Wire Bonding</i>	Using gold wires, the dies are connected to the package inner leads.
<i>Molding</i>	The die and wires are encapsulated to provide physical support and protection.
<i>Marking</i>	Each individual package is marked to provide product identification.
<i>Dejunking and Trimming</i>	Mold flash is removed from between the lead shoulders through dejunking, and the dambar is cut during the trimming process.
<i>Electrical Plating</i>	A solderable coating is added to the package leads to prevent oxidization and to keep solder wettability of the package leads.
<i>Forming/Singulation</i>	Forming involves the proper configuration of the device packages leads, and singulation separates the packages from each other.

## **Table of Contents**

We offer a broad range of package formats designed to provide our customers with a broad array of assembly services. The assembly services we offer customers are leadframe-based packages, which include thin small outline packages, and organic substrate-based packages, including fine-pitch BGA.

The differentiating characteristics of these packages include:

the size of the package;

the number of electrical connections which the package can support;

the electrical performance and requirements of the package; and

the heat dissipation requirements of the package.

As new applications for semiconductor devices require smaller components, the size of packages has also decreased. In leading-edge packages, the size of the package is reduced to just slightly larger than the size of the individual chip itself in a process known as chip scale packaging.

As semiconductor devices increase in complexity, the number of electrical connections required also increases. Leadframe-based products have electrical connections from the semiconductor device to the electronic product through leads on the perimeter of the package. Organic substrate-based products have solder balls on the bottom of the package, which create the electrical connections with the product and can support large numbers of electrical connections.

*Leadframe-Based Packages.* These are generally considered the most widely used package category. Each package consists of a semiconductor chip encapsulated in a plastic molding compound with metal leads on the perimeter. This design has evolved from a design plugging the leads into holes on the circuit board to a design soldering the leads to the surface of the circuit board.

The following diagram presents the basic components of a standard leadframe-based package for memory semiconductors:

To satisfy the demand for miniaturization of portable electronic products, we are currently developing and will continue to develop increasingly smaller versions of leadframe-based packages to keep pace with continually shrinking semiconductor device sizes. Our advanced leadframe-based packages generally are thinner and smaller, have more leads and have advanced thermal and electrical characteristics when compared to traditional packages. As a result of our continual product development, we offer leadframe-based packages with a wide range of lead counts and sizes to satisfy our customers' requirements.



## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

The following table presents our principal leadframe-based packages, including the number of leads in each package, commonly known as lead-count, a description of each package and the end-user applications of each package.

Package	Lead-count	Description	End-User Applications
Small Outline J-lead Package (SOP)	24-42	Designed for low lead-count memory devices, including DRAM and high speed SRAM	Personal computers, consumer electronics, audio and video products
Plastic Dual-in-line Package (PDIP)	28	Package with insertion leads on longer sides used in consumer electronics products	Electronic games, monitors, copiers, printers, audio and video products, personal computers
Plastic Leaded Chip Carrier (PLCC)	32	Package with leads on four sides used in consumer electronics products in which the size of the package is not vital	Copiers, printers, scanners, personal computers, electronic games, monitors
Thin Small Outline Package I (TSOP I)	28-48	Designed for high volume production of low lead-count memory devices, including flash memory, SRAM and MROM	Notebook computers, personal computers, still and video cameras and standard connections for peripherals for computers
Thin Small Outline Package II (TSOP II)	24-86	Designed for memory devices, including flash memory, SRAM, DRAM, SDRAM and DDR DRAM	Disk drives, recordable optical disk drives, audio and video products, consumer electronics, communication products

**Table of Contents**

<b>Package</b>	<b>Lead-count</b>	<b>Description</b>	<b>End-User Applications</b>
Low-Profile Quad Flat Package (LQFP)	48-100	Low-profile and light weight package designed for ASICs, digital signal processors, microprocessors/controllers, graphics processors, gate arrays, SSRAM, SDRAM, personal computer chipsets and mixed-signal devices	Wireless communication products, notebook computers, digital cameras, cordless/radio frequency devices
Thin Quad Flat Package (TQFP)	48-100	Designed for lightweight portable electronics requiring broad performance characteristics and mixed-signal devices	Notebook computers, personal computers, disk drives, office equipment, audio and video products and wireless communication products
Small Outline Package (SOP)	8-32	Designed for low lead-count memory and logic semiconductors, including SRAM and micro-controller units	Personal computers, consumer electronics, audio and video products, communication products
Multi-Chip Package (TSOP with organic substrate)	24-66	Our patented design for memory devices, including SRAM, DRAM and SDRAM	Notebook computers, personal computers, disk drives, audio and video products, consumer products, communication products

Organic Substrate-based Packages. As the number of leads surrounding a traditional leadframe-based package increases, the leads must be placed closer together to reduce the size of the package. The close proximity of one lead to another can create electrical shorting problems and requires the development of increasingly sophisticated and expensive techniques to accommodate the high number of leads on the circuit boards.

The BGA format solves this problem by effectively creating external terminals on the bottom of the package in the form of small bumps or balls. These balls are evenly distributed across the entire bottom surface of the package, allowing greater distance between the individual leads. The ball grid array configuration enables high lead count devices to be manufactured less expensively with less delicate handling at installation.

Our organic substrate-based packages employ a fine-pitch BGA design, which uses a plastic or tape laminate rather than a leadframe and places the electrical connections, or leads, on the bottom of the package rather than around the perimeter. The fine-pitch BGA format was developed to address the need for the smaller footprints required by advanced memory devices. Benefits of ball grid array assembly over leadframe-based assembly include:

smaller size;

smaller footprint on a printed circuit board;

better electrical signal integrity; and

easier attachment to a printed circuit board.

The following diagram presents the basic component parts of a fine-pitch BGA package:

The following table presents the lead-count, description and end-user applications of organic substrate-based packages we currently assemble:

Package	Connections	Description	End-User Applications
Fine-pitch BGA	36-208	Low-cost and space-saving assembly designed for low input/output count, suitable for semiconductors that require a smaller package size than standard BGA	Memory, analog, flash memory, ASICs, radio frequency devices, personal digital assistants, cellular handsets, communication products, notebook computers, wireless systems

**Table of Contents**

<b>Package</b>	<b>Connections</b>	<b>Description</b>	<b>End-User Applications</b>
Substrate On Chip (SOC)	52-60	Our patented design for DRAM products that require high performance and chip scale package	Notebook computers, cellular handsets, global positioning systems, personal digital assistants, wireless systems
Multi-Chip BGA	48-208	Our patented design for assembly of two or more memory chips (to increase memory density) or memory and logic chips in one BGA package	Notebook computers, digital cameras, personal digital assistants, global positioning systems, sub-notebooks, board processors, wireless systems
Stacked-Chip CSP	48-72	Designed for assembly of two or more memory chips or logic and memory chips in one chip scale package (CSP)	Cellular handsets, digital cameras, personal digital assistants, wireless systems, notebook computers, global positioning systems

The following table presents the organic substrate-based packages we currently plan to assemble in the future, including the number of connections, a description of the package and the end-user applications of each package:

<b>Package</b>	<b>Connections</b>	<b>Description</b>	<b>End-User Applications</b>
Micro BGA	46-72	Designed for high-speed, high-density, high-performance memory devices, such as Rambus DRAM, DDR DRAM and flash memory	High performance computers, game consoles, notebooks, visual cellular handsets, mixed-signal, wireless systems

**LCD and Other Flat-Panel Display Driver Semiconductors**

We also offer testing and assembly services for LCD and other flat-panel display driver semiconductors. We employ TCP, COF and COG technologies for testing and assembling LCD and other flat-panel display driver semiconductors. In addition, we offer gold bumping services to our customers.

Gold bumping technology, which can be used in TCP, COF and COG technologies, is a necessary interconnection technology for LCD and other flat-panel display driver semiconductors. Most gold bumping services are performed on six- or eight-inch wafers. Gold bumping technology provides the best solution for fine-pitch chips and is able to meet the high production requirement for LCD and other flat-panel display driver semiconductors or other chips that require thin packaging profiles.

The gold bumping fabrication process uses thin film metal deposition, photolithography and electrical plating technologies. A series of barrier and seed metal layers are deposited over the surface of the wafer. A layer of thick photoresist material is spin-coated over these barrier and seed layers. A photomask is used to pattern the locations over each of the bond pads that will be bumped. UV exposure and developing processes open the photoresist material, which defines the bump shape. The gold bump is then electroplated over the pad and the deposited barrier metal layers. Once the plating is complete, a series of etching steps are used to remove the photoresist material and the metal layers that are covering the rest of the wafer. The gold bump protects the underlying materials from being etched. The gold bumped wafers will go through an annealing furnace to soften the gold bumps to fit the hardness requirement of TCP, COF and COG assembly processes.

*Tape Carrier Package Technology*

TCPs offer a high number of inputs and outputs, a thin package profile and a smaller footprint on the circuit board, without compromising performance. Key package features include surface mount technology design, fine-pitch tape format and slide carrier handling. Because of their flexibility and high number of inputs and outputs, TCPs are primarily employed either for STN-LCD or TFT-LCD driver semiconductors.

*Testing of tape carrier packages.* We conduct full function testing of LCD and other flat-panel display driver semiconductors with a specially designed probe handler to ensure reliable contact to the test pads on the TCP tape. We can test STN-LCD or TFT-LCD driver semiconductors with frequencies of up to 500 MHz and at voltages up to 40V. The test is performed in a temperature-controlled environment with the device in tape form. The assembled and tested LCD and other flat-panel display driver semiconductors in tape form are packed between spacer tapes together with a desiccant in an aluminum bag to avoid contact during shipment.

**Table of Contents**

*Assembly of tape carrier packages.* TCPs use a tape-automated bonding process to connect die and tape. The printed circuit tape is shipped with a reel. The reel is then placed onto an inner lead bonder, where the LCD or other flat-panel display driver semiconductor is configured onto the printed circuit tape. The resulting TCP component consists of the device interconnected to a three-layer tape, which includes a polyamide-down carrier film, an epoxy-based adhesive layer and a metal layer. The tape metallization area of the interconnections is tin plated over a metal layer. The silicon chip and inner lead area is encapsulated with a high temperature thermoset polymer coating after inner lead bonding. The back face of the chip is left uncoated for thermal connection to the printed circuit board.

The following diagram presents the basic components of a tape carrier package:

***Chip-on-Film Technology***

In 2001, we commenced testing and assembly services using COF technology. We have developed this proprietary technology from our existing TCP technology, and it has been widely accepted by our customers. The primary use of the COF module is to replace the liquid crystal module, or LCM, in certain applications. LCM is mainly employed in handheld electronics, such as PDAs and cellular handsets.

COF technology provides several additional advantages. For example, COF is able to meet the size, weight and higher resolution requirements in electronic products, such as flat-panel displays. This is because of its structural design, including an adhesive-free two-layer tape that is highly flexible, bending strength and its capacity to receive finer patterning pitch.

The TCP and COF assembly process involves the following steps:

<i>Wafer lapping</i>	The wafers are ground to their required thickness.
<i>Die Saw</i>	Wafers are cut into individual dies, or chips, in preparation for inner lead bonding.
<i>Inner Lead Bonding</i>	An inner lead bonder machine connects the chip to the printed circuit tape.
<i>Potting</i>	The package is sealed with an epoxy.
<i>Potting Cure</i>	The potting cure process matures the epoxy used during the potting stage with high temperatures.
<i>Marking</i>	A laser marker is used to provide product identification.
<i>Marking Cure</i>	The marking cure process matures the marking ink by subjecting the semiconductor to high temperatures.

***Chip-on-Glass Technology***

COG technology is an electronic assembly technology that is used increasingly in assembling LCD and other flat-panel display driver semiconductors for communications equipment. Compared to the traditional bonding process for TCP or COF, the new COG technology is easy to rework and requires lower bonding temperature. In addition, the COG technology reduces assembly cost as it does not use tapes for interconnection between the LCD panel and the printed circuit board.



## **Table of Contents**

The COG assembly technology involves the following steps:

<i>Wafer Lapping</i>	The wafers are ground to their required thickness.
<i>Die Saw</i>	Wafers are cut into individual dies, or chips, in preparation for the pick and place process.
<i>Pick and Place</i>	Each individual die is picked and placed into a chip tray.
<i>Inspection and Packing</i>	Each individual die in a tray is visually or auto-inspected for defects. The dies are packed within a tray in an aluminum bag after completion of the inspection process.

### ***Semiconductor Turnkey***

To efficiently utilize our excess capacity during the downturn in the semiconductor market in 1998 and 1999, we began to provide semiconductor turnkey services in early 1999. Our semiconductor turnkey services consist of our purchase of fabricated wafers, primarily memory semiconductors, principally from Elite Memory Technology Inc. and MediaTek Inc. We then test and assemble the dies cut from the fabricated wafers and resell the completed semiconductors to our customers. The level of our semiconductor turnkey services declined by the end of the third quarter of 2000, as we reached our full testing and assembly capacity. Starting in the first quarter of 2001 to the end of 2002, we increased the level of our semiconductor turnkey services again as a result of decreased testing and assembly capacity utilization rates due to the decline in market demand for semiconductors. In 2003, the level of our semiconductor turnkey services declined due to the increase in customer orders for our testing and assembly services. Commencing in 2003, our revenue from our semiconductor turnkey services also includes trading revenue generated by ChipMOS Far East from purchases and sales of certain components for DVD/CD-ROM/CD-RW drives provided to third parties. We did not generate any trading revenue in the first quarter of 2004 and we do not expect to generate significant trading revenue in the remainder of 2004.

### ***Other Services***

#### ***Drop Shipment***

We offer drop shipment of semiconductors directly to end-users designated by our customers. We provide drop shipment services, including assembly in customer-approved and branded boxes, to a majority of our testing and assembly customers. Since drop shipment eliminates the additional step of inspection by the customer prior to shipment to end-users, quality of service is a key to successful drop shipment service. 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.

#### ***Software Development, Conversion and Optimization Program***

We work closely with our customers to provide sophisticated software engineering services, including test program development, conversion and optimization, and related hardware design. Generally, testing requires customized testing software and related hardware to be developed for each particular product. Software is often initially provided by the customer and then converted by us at our facilities for use on one or more of our testing machines and contains varying functionality depending on the specified testing procedures. Once a conversion test program has been developed, we perform correlation and trial tests on the semiconductors. Customer feedback on the test results enables us to adjust the conversion test programs prior to actual testing. We also typically assist our customers in collecting and analyzing the test results and recommend engineering solutions to improve their design and production process.



**Customers**

We believe that the following factors have been, and will continue to be, important factors in attracting and retaining customers:

our advanced testing and assembly technologies;

our strong capabilities in testing and assembling LCD and other flat-panel display driver semiconductors;

our focus on high-density memory products and mixed-signal communications products; and

our reputation for high quality and reliable customer-focused services.

## Table of Contents

The number of our customers has grown from 46 in 1999 to 90 in 2003 and more than 111 in the first quarter of 2004, respectively. Our top 15 customers in the first quarter of 2004 include (in alphabetical order):

Asahi Kasei Microsystem Co. Ltd.

Cascade Semiconductor Corp.

Cypress Semiconductor Corp.

DenMOS Technology, Inc.

Elite Memory Technology Inc.

FASL (Kuala Lumpur) Sdn. Bhd.

Himax Technologies, Inc.

Integrated Silicon Solution, Inc.

Macronix International Co., Ltd.

Novatek Microelectronics Corp., Ltd.

Oki Electric Industry Co., Ltd.

Powerchip Semiconductor Corp.

ProMOS Technologies Inc.

SILICON7 SMART DESIGN POWERFUL CHIPS

Ultima Electronics Corp.

In 2001 and 2002, our largest customer, Mosel, accounted for 48% and 35% of our net revenue, respectively, our second largest customer, Ultima, accounted for approximately 22% and 19% of our net revenue, respectively, our third largest customer in 2001, Elite Memory Technology Inc., accounted for approximately 4%, and our third largest customer in 2002, Macronix International Co. Ltd., accounted for approximately 5% of our net revenue. In 2003, our largest customer was ProMOS, which accounted for 19% of our net revenue, while our second largest customer, Mosel, accounted for almost 19% of our net revenue, and our third largest customer, Ultima, accounted for 12% of our net revenue. Mosel ceased to be a key customer of ours following the transfer of all of its DRAM business to ProMOS in the period from July to December 2003. We have been successful in attracting new customers such as Renesas Technology Corporation, FASL (Kuala Lumpur) Sdn. Bhd., and Texas Instrument Japan Limited in 2003.

The majority of our customers do not enter into long-term contracts with us, and instead purchase our services through purchase orders and provide us every month with three-month non-binding rolling forecasts. The price for our services is typically agreed upon at the time when a purchase order is placed. In 2002, 2003 and 2004, we entered into several long-term agreements with some of our key customers, including DenMOS, Himax, Novatek, Oki and ProMOS, under which we reserved capacity for such customers and under which such customers committed to place orders in the amount of the reserved capacity through 2005 and 2006, some of which may be reduced by these customers under the agreements. These agreements generally provide that the price of our services will be agreed upon at the time our customers place the

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

orders under such agreements. If we are unable to test and assemble the agreed number of semiconductors in any given month, such customers may generally use a third party to cover the shortfall. However, under these agreements, we are generally entitled to cure any shortfall in the following month. If we fail to do so, we may generally be liable for damages up to the amount equal to the number of shortfall units in the given month multiplied by the average sales price per unit in that month. If a customer fails to place orders according to the reserved capacity, we are generally entitled to damages based on our costs for the equipment, tooling costs, costs for personnel dedicated to the provisions of capacity to such customer, and the costs for raw materials. As of April 30, 2004, 62% of our total current capacity has been reserved for such customers.

The following table sets forth, for the periods indicated, the percentage breakdown of our net revenue, categorized by geographic region based on the jurisdiction in which each customer is headquartered.

	Year ended December 31,		
	2001	2002	2003
Taiwan	89%	88%	84%
Japan	4	3	5
United States	6	3	5
Hong Kong SAR	(1)	6	5
Others	1	(1)	1
	100%	100%	100%

(1) Less than 1%.

## **Table of Contents**

### *Qualification and Correlation by Customers*

Our customers generally require that our facilities undergo a stringent qualification process during which the customer evaluates our operations, production processes and product reliability, including engineering, delivery control and testing capabilities. The qualification process typically takes up to eight weeks, or longer, depending on the requirements of the customer. For test qualification, after we have been qualified by a customer and before the customer delivers semiconductors to us for testing in volume, a process known as correlation is undertaken. During the correlation process, the customer provides us with test criteria, information regarding process flow and sample semiconductors to be tested and either provides us with the test program or requests that we develop a new or conversion program. In some cases, the customer also provides us with a data log of results of any testing of the semiconductor that the customer may have conducted previously. The correlation process typically takes up to two weeks, but can take longer depending on the requirements of the customer.

### **Sales and Marketing**

We maintain sales and marketing offices in Taiwan, Hong Kong, Japan and the United States. Our sales and marketing strategy is to focus on memory semiconductors in Taiwan, mixed-signal semiconductors in Taiwan, Japan and the United States, LCD and other flat-panel display driver semiconductors in Japan, Taiwan and Hong Kong, and module and subsystem manufacturing in Taiwan and Mainland China. As of April 30, 2004, our sales and marketing efforts were primarily carried out by teams of sales professionals, application engineers and technicians totaling 52 staff. Each of these teams focuses on specific customers and/or geographic regions. As part of our emphasis on customer service, these teams:

actively participate in the design process at the customers' facilities;

resolve customer testing and assembly issues; and

promote timely and individualized resolutions to customers' issues.

We conduct marketing research through our in-house customer service personnel and through our relationships with our customers and suppliers to keep abreast of market trends and developments. Furthermore, we do product and system bench-marking analyses to understand the application and assembly technology evolution, such as analysis on mobile handsets and CD-/DVD-ROM players. In addition, we regularly collect data from different segments of the semiconductor industry and, when possible, we work closely with our customers to design and develop testing and assembly services for their new products. These co-development or sponsorship projects can be critical when customers seek large-scale, early market entry with a significant new product.

We have appointed a non-exclusive sales agent for promoting our services for memory semiconductors in the United States and Japan. Our sales agent helps us promote and market our services, maintain relations with our existing and potential customers and communicate with our customers on quality, specific requirements and delivery issues. We generally pay our sales agent a commission of 2.5% or 5% of our revenue from services for memory semiconductors in the United States and Japan. For the years ended December 31, 2002 and 2003, we paid NT\$4 million and NT\$9 million, respectively, in commissions to our sales agent.

### **Research and Development**

We believe that research and development is critical to our future success. In 2001, 2002 and 2003 we spent approximately NT\$409 million, or 8%, NT\$327 million, or 5%, and NT\$295 million, or 3%, respectively, of our net revenue on research and development. We intend to sustain our commitment to these efforts.

Our research and development efforts have focused primarily on improving the efficiency, production yields and technology of our testing and assembly services. From time to time, we jointly develop new technology with universities and research institutions. For testing, our research and development efforts focus particularly on complex, high-speed, high-pin count and high-density semiconductors in fine-pitch and thin packages. Our projects include:

development of testing environments for simultaneous wafer probing and package testing;

**Table of Contents**

development/conversion of test programs;

development of wafer-level burn-in;

development of wafer-level testing;

testing new products using existing machines;

providing customers remote access to monitor test results; and

development of testing technologies for modules and subsystems for flat-panel displays.

We are also continuing development of interface designed to provide for high frequency testing by minimizing electrical noise.

For assembly, our research and development efforts focus on:

high performance;

fine pitch;

miniaturization;

multi-chip assembly;

multi-chip modules;

stacked-chip chip scale package;

modules and subsystems for flat-panel displays;

thinner and more flexible assembly such as chip-on-film packaging;

three-dimensional assembly; and

developing environmentally friendly assembly services.

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Our projects include developing multi-chip package, lead-free products, 12-inch wafer technologies, 100 micron wafer thickness technology, COF module, liquid crystal on silicon microdisplay, or LCOS microdisplay, optical engine assembly technologies, compact camera modules, and advanced probe card technology. We work closely with our customers to design and modify testing software and with equipment vendors to increase the efficiency and reliability of testing and assembly equipment. Our research and development operations also include a mechanical engineering group, which currently designs handler kits for semiconductor testing and wafer probing, as well as software to optimize capacity utilization.

As of April 30, 2004, we employed 180 professionals in our research and development activities. In addition, other management and operational personnel are also involved in research and development activities but are not separately identified as research and development professionals.

We maintain laboratory facilities to analyze the characteristics of semiconductor packages by computer simulation, and verify their performance by measurement devices. The use of computer simulation substantially reduces the time required to validate the suitability of a package for a given application, as compared with physical testing methods.

### **Quality Control**

We believe that our reputation for high quality and reliable services has been an important factor in attracting and retaining leading international semiconductor companies as customers for our testing and assembly services. We are committed to delivering semiconductors that meet or exceed our customers' specifications on time and at a competitive cost. We maintain quality control staff at each of our facilities. As of April 30, 2004, we employed 374 professionals for our quality control activities. Our quality control staff typically includes engineers, technicians and other employees who monitor testing and assembly processes in order to ensure high quality. We employ quality control procedures in the following critical areas:

sales quality assurance: following market trends to anticipate customers' future needs;

## Table of Contents

design quality assurance: when developing new testing and assembly processes;

supplier quality assurance: consulting with our long-term suppliers;

manufacturing quality assurance: through a comprehensive monitoring program during mass production; and

service quality assurance: quickly and effectively responding to customers' claims after completion of sale.

All of our facilities have been QS 9000 certified by the International Automotive Sector Group. Our facilities in Hsinchu and Tainan have also been ISO 9002 certified. ISO 9002 certification is required by many countries for sales of industrial products in those countries. The QS 9000 quality standards provide for continual improvement with an emphasis on the prevention of defects and reduction of variation and waste in the supply chain. Like ISO 9002 certification, QS 9000 certification is required by some semiconductor manufacturers as a threshold indicator of a company's quality control standards. We also earned the 1998 QC Group Award from The Chinese Society of Quality, which is equivalent to the similar award from the American Society of Quality. In addition, our laboratories have been awarded Chinese National Laboratory accreditation under the categories of electricity, electrical test and temperature calibration.

Further demonstrating our commitment to, and achievements in, quality management, ChipMOS Taiwan obtained the ISO/TS 16949:2002 quality system certification on November 26, 2003. The ISO/TS 16949:2002 certification system was jointly developed by members of the International Automotive Task Force (IATF) and approved by the International Organization for Standardization. This technical specification is a common automotive quality system requirements catalog based on ISO 9001:2000, AVSQ (Italian), EAQF (French), Q.S.-9000 (US) and VDA6.1 (German) automotive catalogs. The ISO/TS (Technical Specification) 16949:2002 certification system seeks to actively incorporate quality management policies and objectives into the operation flows of the company. This certification stresses the supervision and measurement of both process and performance. The certification system became effective in March 2002.

On June 26, 2003, ChipMOS Shanghai obtained the ISO 9001:2000 quality system certification with respect to manufacturing and supply of semiconductor assembly, test and module manufacturing.

Our testing and assembly operations are carried out in clean rooms where air purity, temperature and humidity are controlled. To ensure the stability and integrity of our operations, we maintain clean rooms at our facilities that meet US federal 209E class 1,000, 10,000 and 100,000 standards. A class 1,000 clean room means a room containing less than 1,000 particles of contaminants per cubic foot.

We have established manufacturing quality control systems that are designed to ensure high-quality services to our customers and maintain reliability and high production yields at our facilities. We employ specialized equipment for manufacturing quality and reliability control, including:

temperature cycling testers, thermal shock testers, pressure cook testers and highly accelerated stress testers for reliability analyses;

a scanning acoustic tomograph and scanning electronic microscope for physical failure analysis, semi-auto probe and curve tracer and direct current tester station for electrical failure analysis; and



three-dimensional measurement for full-dimension measurement.

In addition, to enhance our performance and our research and development capabilities, we also installed a series of high-cost equipment, such as temperature humidity bias testers, low temperature storage-life testers and highly accelerated stress testers. Most of our competitors do not own this equipment.

As a result of our ongoing focus on quality, we achieved monthly assembly yields of an average of 99.9% for our TSOP packages, and 99.1% for our TCP packages in 2003. The assembly yield, which is the industry standard for measuring production yield, is equal to the number of integrated circuit packages that are shipped back to customers divided by the number of individual integrated circuits that are attached to leadframes or organic substrate.

**Table of Contents****Facilities**

We provide testing services through our three facilities in Taiwan and one facility in Shanghai, with one facility at each of the following locations: the Hsinchu Industrial Park, the Hsinchu Science Park, the Southern Taiwan Science Park and the Shanghai Qingpu Industrial Zone. We provide assembly services through our facility at the Southern Taiwan Science Park and our facility at the Shanghai Qingpu Industrial Zone. We own the land for our Hsinchu Industrial Park testing facility, and we lease the land for our Hsinchu Science Park testing facility and Tainan assembly facility from the Science Park Administration under three 20-year leases. Two leases for our Hsinchu Science Park facility will expire in 2008 and 2017, respectively, and the lease for our Southern Taiwan Science Park facility will expire in 2017.

In March 2002, Modern Mind entered into a cooperation agreement with the Shanghai Qingpu Industrial Zone Development Group Company under which Modern Mind has agreed to construct a permanent wholly-owned facility in the Shanghai Qingpu Industrial Zone to provide testing and assembly services. Modern Mind commenced construction of the facility in Shanghai in June 2002. While the exterior of the facility was completed in November 2003, equipment will not be moved into this facility until the third quarter of 2004. Pending commencement of production at the permanent facility, Modern Mind is operating in a temporary facility leased from a third party. Commercial testing and assembly services at this temporary facility commenced in March 2003. Modern Mind currently offers TSOP packages and testing and assembly of memory semiconductors, and intends to expand throughout 2004 and 2005 into the various testing and assembly services offered by us. Subsequent to the commencement of production at the permanent facility, we will also provide gold bumping services at the temporary facility. In connection with the planned operations in Shanghai, Modern Mind has invested, through ChipMOS Shanghai, US\$47.5 million in the new testing and assembly facility in Shanghai and Modern Mind has committed to invest an additional US\$202.5 million by June 6, 2005 in the permanent testing and assembly facility.

We leased the land previously used for our Kaohsiung testing facility from the Kaohsiung Export Processing Zone Administration under a lease which will expire on June 30, 2004. We currently do not have a definitive plan for the construction of this facility.

The following table shows the location, primary use and size of each of our facilities, and the principal equipment installed at each facility, as of April 30, 2004.

<b>Location of Facility</b>	<b>Primary Use</b>	<b>Size of Land</b>	<b>Testers/Bonders</b>
Chupei, Hsinchu Chantek	Assembly/Gold Bumping <sup>(1)</sup>	21,620 square meters	153 wire bonders 1 stepper 2 aligners
Chupei, Hsinchu CipMOS Logic	Testing	12,873 square meters	34 testers
Hsinchu Industrial Park, Taiwan ThaiLin	Testing	25,779 square meters	52 testers
Hsinchu Science Park, Taiwan	Testing	28,632 square meters	157 testers
Southern Taiwan Science Park, Taiwan	Assembly/Testing	56,680 square meters	126 wire bonders 74 inner lead bonders 86 testers
Kaohsiung Export Processing Zone, Taiwan	Testing	7,497 square meters	33 testers
		291,959 square meters	2 testers 32 wire bonders

Shanghai Qingpu Industrial Zone,      Assembly/Testing/Modules and  
Mainland China                              Subsystem Manufacturing

---

(1) Gold bumping equipment at this facility belongs to ChipMOS Taiwan.

### **Raw Materials**

Semiconductor testing requires minimal raw materials. Fabricated wafers are the main raw materials for our semiconductor turnkey services. Substantially all of the raw materials used in our memory and mixed-signal semiconductor assembly processes are interconnect materials such as leadframes, organic substrates, gold wire and molding compound. Raw materials used in the LCD and other flat-panel display driver semiconductor testing and assembly process include carrier tape, resin, spacer tape, plastic reel, aluminum bags, and inner and outer boxes. Cost of raw materials represented 35% and 23% of our net revenue in 2002 and 2003, respectively.

We do not maintain large inventories of leadframes, organic substrates, gold wire or molding compound, but generally maintain sufficient stock of each principal raw material for approximately one month's production based on blanket orders and rolling forecasts of near-term requirements received from customers. In addition, several of our principal suppliers dedicate portions of their inventories, typically in amounts equal to the average monthly amounts supplied to us, as reserves to meet our production requirements. However, shortages in the supply of

## **Table of Contents**

materials experienced by the semiconductor industry have in the past resulted in occasional price adjustments and delivery delays. See Item 3. Key Information Risk Factors Risks Relating to Our Business If we are unable to obtain raw materials and other necessary inputs from our suppliers in a timely and cost-effective manner, our production schedules would be delayed and we may lose customers and growth opportunities and become less profitable for a discussion of the risks associated with our raw materials purchasing methods. For example, in 1997 and 1998, the industry experienced a shortage in the supply of advanced organic substrates used in BGA packages, which are currently available only from a limited number of suppliers located primarily in Japan. Similarly, with the exception of aluminum bags and inner and outer boxes, which we acquire from local sources, the raw materials used in our TCP process and for modules are obtained from a limited number of Japanese suppliers. Furthermore, we have recently seen a significant increase in the prices of leadframes, one of the raw materials that we use for leadframe-based packages.

## **Equipment**

### *Testing of Memory and Mixed-Signal Semiconductors*

Testing equipment is the most capital intensive component of the testing business. Upon the acquisition of new testing equipment, we install, configure, calibrate and perform burn-in diagnostic tests on the equipment. We also establish parameters for the testing equipment based on anticipated requirements of existing and potential customers and considerations relating to market trends. As of April 30, 2004, we operated 278 testers. We generally seek to purchase testers with similar functionality that are able to test a variety of different semiconductors. We purchase testers from major international manufacturers, including Advantest Corporation, Agilent Technologies and Credence Systems Corporation.

In general, particular semiconductors can be tested using a limited number of specially designed testers. As part of the qualification process, customers will specify the machines on which their semiconductors may be tested. We often develop test program conversion tools that enable us to test semiconductors on multiple equipment platforms. This portability among testers enables us to allocate semiconductor testing across our available testing capacity and thereby improve capacity utilization rates. If a customer requires the testing of a semiconductor that is not yet fully developed, the customer consigns its testing software programs to us to test specific functions. If a customer specifies testing equipment that is not widely applicable to other semiconductors we test, we require the customer to furnish the equipment on a consignment basis. Currently, we do not have any testers consigned to us.

We will continue to acquire additional testing equipment in the future to the extent market conditions, cash generated from operations, the availability of financing and other factors make it desirable to do so. Some of the equipment and related spare parts that we require have been in short supply in recent years. Moreover, the equipment is only available from a limited number of vendors or is manufactured in relatively limited quantities and may have lead times from order to delivery in excess of six months.

### *Assembly of Memory and Mixed-Signal Semiconductors*

The number of wire bonders at a given facility is commonly used as a measure of the assembly capacity of the facility. Typically, wire bonders may be used, with minor modifications, for the assembly of different products. We purchase wire bonders principally from Shinkawa Co., Ltd. As of April 30, 2004, we operated 311 wire bonders. In addition to wire bonders, we maintain a variety of other types of assembly equipment, such as wafer grinders, wafer mounters, wafer saws, die bonders, automated molding machines, laser markers, solder platers, pad printers, dejunkers, trimmers, formers, substrate saws and lead scanners.

*Testing and Assembly of LCD and Other Flat-Panel Display Driver Semiconductors*

We acquired TCP-related equipment from Sharp to begin our TCP-related services. We subsequently purchased additional TCP-related testers from Yokogawa Electric Corp. and Advantest Corporation and assembly equipment from Shibaura Mechatronics Corp., Athlete FA Corp. and Sharp Takaya Electronics Corp. As of April 30, 2004, we operated one stepper and two aligners for gold bumping and 74 inner lead bonders for assembly and 86 testers for LCD and other flat-panel display driver semiconductors. We are currently in the process of purchasing additional testing equipment. The testing equipment can be used for the TCP, COF and COG processes, while the inner lead bonders are only used in the TCP and COF processes. The same types of wafer grinding, auto wafer mount and die saw equipment is used for the TCP, COF and COG processes. In addition, auto inspection machines and manual work are used in the COG process, which is more labor intensive than the TCP and COF processes.

**Table of Contents**

**Competition**

The independent testing and assembly markets are very competitive. Our competitors include large IDMs with in-house testing and assembly capabilities and other independent semiconductor testing and assembly companies, especially those offering vertically integrated testing and assembly services, such as Advanced Semiconductor Engineering Inc., Amkor Technology, Inc., ASAT Limited, ASE Test Limited, ChipPAC, Inc., King Yuan Electronics Co., Ltd., Siliconware Precision, and ST Assembly Test Services Ltd. We believe that the principal measures of competitiveness in the independent semiconductor testing industry are:

engineering capability of software development;

quality of service;

flexibility;

capacity;

production cycle time; and

price.

In assembly services, we compete primarily on the basis of:

production yield;

production cycle time;

process technology, including our COF technology for LCD and other flat-panel display driver semiconductor assembly services;

quality of service;

capacity;

location; and

price.

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

IDMs that use our services continually evaluate our performance against their own in-house testing and assembly capabilities. These IDMs may have access to more advanced technologies and greater financial and other resources than we do. We believe, however, that we can offer greater efficiency and lower costs while maintaining an equivalent or higher level of quality for three reasons:

first, we offer a broader and more complex range of services as compared to the IDMs, which tend to focus their resources on improving their front-end operations;

second, we generally have lower unit costs because of our higher utilization rates; and

finally, we offer a wider range of services in terms of complexity and technology.

### **Intellectual Property**

As of April 30, 2004, we held 333 patents in Taiwan, two patents in Japan, eight patents in the United States and five patents in the People's Republic of China, relating to various semiconductor testing and assembly technologies. These patents will expire at various dates through July 18, 2022. As of April 30, 2004, we also had a total of 15 pending patent applications in the United States, 107 in Taiwan and nine in the People's Republic of China. In addition, we have registered "ChipMOS" and its logo and "InPack" as trademarks in Taiwan, and "ChipMOS" and its logo as trademarks in the United States, the People's Republic of China, Japan and in the European Community.

## **Table of Contents**

We expect to continue to file patent applications where appropriate to protect our proprietary technologies. We may need to enforce our patents or other intellectual property rights or to defend ourselves against claimed infringement of the rights of others through litigation, which could result in substantial costs and a diversion of our resources. See Item 3. Key Information Risk Factors Risks Relating to Our Business Disputes over intellectual property rights could be costly, deprive us of technologies necessary for us to stay competitive, render us unable to provide some of our services and reduce our opportunities to generate revenue.

We acquired our testing and assembly technology for TCPs under a licensing agreement with Sharp Corporation. The term of the agreement with Sharp is for five years beginning February 10, 2000. Pursuant to this agreement, Sharp licensed to us TCP-related technology and intellectual property rights. We in turn pay a royalty fee to Sharp ranging from 3% to 5% of the service fee paid to us by our customers minus the material cost incurred from providing TCP-related services over the term of the licensing agreement, except for the TCP-related services provided to Sharp. Sharp has granted us a grace period for the payment of the royalty fees, which expires in September 2004, during which we may defer the payment of a portion of the royalty fee due to Sharp until the expiry of the grace period or until the amount of deferred royalty fee exceeds approximately ¥151 million. In 2002 and 2003, we have incurred royalty obligations of ¥32 million and ¥22 million, respectively, to Sharp, the total amount of which is expected to be paid in 2004.

On April 7, 2004, ChipMOS Bermuda entered into an assignment agreement with ChipMOS Taiwan, as amended on May 14, 2004, pursuant to which ChipMOS Taiwan transferred all of the technologies it owned to ChipMOS Bermuda for a purchase price of US\$19.7 million, payable to ChipMOS Taiwan by September 30, 2004.

On April 7, 2004, ChipMOS Bermuda entered into a patent license agreement with ChipMOS Taiwan, pursuant to which ChipMOS Bermuda grants to ChipMOS Taiwan a non-exclusive royalty-bearing license with respect to certain patents and patent applications until the expiration of the term of the last of these patents. Under the patent license agreement, ChipMOS Taiwan will pay ChipMOS Bermuda a royalty in the aggregate of US\$20 million, payable in 80 quarterly installments of US\$250,000 each, the first of which must be made on July 7, 2004.

## **Environmental Matters**

Semiconductor testing does not generate significant pollutants. The semiconductor assembly process generates gaseous chemical wastes, principally at the molding stage. Liquid waste is produced when silicon wafers are ground thinner and diced into chips with the aid of diamond saws and cooled with running water. In addition, excess material on leads and moldings are removed from assembled semiconductors in the trimming and dejunking processes, respectively. We have installed various types of liquid and gaseous chemical waste-treatment equipment at our semiconductor assembly facilities in the Southern Taiwan Science Park, where all of our assembly operations in Taiwan are located. We believe that we have adopted adequate and effective environmental protection measures that are consistent with semiconductor industry practices in Taiwan. In addition, we believe we are in compliance in all material respects with current environmental laws and regulations applicable to our operations and facilities.

All of our facilities in Taiwan have been certified as meeting the ISO 14001 environmental standards by the International Organization for Standardization. Our testing facility at the Hsinchu Science Park won both the Plant Greenery and Beautification Award in 1999, 2000 and 2002 and the Safety & Health Excellent Personnel Award in 2001 from the Science Park Administration, the Green Office Award from the Environment Protection Administration of the ROC in 2000 and the Outstanding Voluntary Protection Program Award by the Labor Affairs Commission of the ROC in 1999. Our assembly facility at the Southern Taiwan Science Park won the Green Office Award from the Environment Protection Administration of the ROC in 2001. We continued to win several environmental awards in 2003. These include the Environmental Protection Excellent Unit Award, the Plant Greenery and Beautification Award, the Environment Maintain Award and the Safety & Health Excellent Personnel Award, each awarded by the Science Park Administration. We will continue to implement programs, measures and related training to reduce industrial waste, save energy, and control pollution. In 2001, we also completed our lead-free process control



program, which offers a lead-free method in a semiconductor package, a lead-free plating, a lead-free solder ball and a lead-free reliability method and specification.

**Insurance**

We maintain insurance policies on our buildings, equipment and inventories. These insurance policies cover property damages due to all risks, including but not limited to, fire and lightning and earthquakes. The maximum

**Table of Contents**

coverage of our property insurance is approximately NT\$23,123 million. In addition, ThaiLin also maintains an all-risks policy for a maximum coverage of approximately NT\$3,004 million, and ChipMOS Shanghai maintains property insurance policies for a maximum coverage of approximately RMB139 million. As of the end of 2000, we had received approximately NT\$113 million in insurance compensation related to the earthquake that occurred on September 21, 1999.

Insurance coverage on facilities under construction is maintained by us and our contractors, who are obligated to procure necessary insurance policies and bear the relevant expenses of which we are the beneficiary.

We also maintain insurance on the wafers delivered to us while these wafers are in our possession and during transportation from suppliers to us and from us to our customers.

**Employees**

See Item 6. Directors, Senior Management and Employees Employees for certain information relating to our employees.

## Table of Contents

### Item 5. Operating and Financial Reviews and Prospects

#### Overview

We provide a broad range of semiconductor testing and assembly services primarily for memory, mixed-signal, and LCD and other flat-panel display driver semiconductors. We also provide semiconductor turnkey services by purchasing fabricated wafers and selling tested and assembled semiconductors. In 2003, our consolidated net revenue was NT\$9,027 million (US\$266 million) and our net income was NT\$482 million (US\$14 million).

We are a holding company, incorporated in Bermuda on August 1, 2000. We provide most of our services through our majority-owned subsidiary, ChipMOS TECHNOLOGIES INC., or ChipMOS Taiwan, and its subsidiaries and investees. ChipMOS Taiwan was founded in 1997 as a joint venture between Mosel and Siliconware Precision and with the participation of other investors. As of April 30, 2004, we held 70.3% of the outstanding common shares of ChipMOS Taiwan, and Siliconware Precision held 28.7%. In Taiwan, we conduct testing operations in our facilities at the Hsinchu Science Park and the Hsinchu Industrial Park and testing and assembly operations in our facility at the Southern Taiwan Science Park. We also conduct operations in Mainland China through ChipMOS TECHNOLOGIES (Shanghai) LTD., or ChipMOS Shanghai, a wholly-owned subsidiary of Modern Mind Technology Limited, or Modern Mind, which is one of our controlled consolidated subsidiaries. ChipMOS Shanghai operates a testing and assembly facility at the Qingpu Industrial Zone in Shanghai. Through our subsidiaries, we also have equity interests in other companies that are engaged in the semiconductor industry. See Item 4. Information on the Company Overview of the Company for more details.

The following key trends are important to understanding our business:

*Capital Intensive Nature of Our Business.* 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 as a result of our previous acquisitions of testing and assembly equipment and facilities. Our profitability depends in part not only on absolute pricing levels for our services, but also on capacity utilization rates for our testing and assembly equipment. In particular, increases or decreases in our capacity utilization rates could significantly affect our gross margins since the unit cost of testing and assembly services generally decreases as fixed costs are allocated over a larger number of units.

The current generation of advanced testers typically cost between US\$2 million and US\$3 million each, while wire bonders used in assembly typically cost approximately US\$85,000 each and inner-lead bonders for tape carrier package, or TCP, and chip-on-film, or COF, assembly cost approximately US\$370,000 each. We begin depreciating our equipment when it is placed into commercial operation. There may be a time lag between the time when our equipment is placed into commercial operation and when it achieves high levels of utilization. In periods of depressed semiconductor industry conditions, such as in 2001 and 2002, we may experience lower than expected demand from our customers and a sharp decline in the average selling prices of our testing and assembly services, resulting in an increase in depreciation expenses relative to net revenue. In particular, the capacity utilization rates for our testing equipment may be severely affected during a semiconductor industry downturn as a result of the decrease in outsourcing demand from integrated device manufacturers, or IDMs, which typically maintain larger in-house testing capacity than in-house assembly capacity.

*Highly Cyclical Nature of the Semiconductor Industry.* Highly cyclical, the worldwide semiconductor industry has experienced peaks and troughs over the last decade, with a severe downturn beginning in the fourth quarter of 2000 that was followed by a modest recovery in 2002. The significant decrease in market demand for semiconductors that began in 2000 adversely affected our results of operations for 2001 and 2002. During periods of decreased demand for assembled semiconductors, some of our customers may forego or simplify final testing of certain

types of semiconductors, such as DRAM, further intensifying our difficulties.

*Declining Average Selling Prices of Our Testing and Assembly Services.* The semiconductor industry is characterized by a general decrease in prices for products and services over the course of their product and technology life cycles. The rate of decline is particularly steep during periods of intense competition and adverse market conditions. The average selling prices of our testing and assembly services, except those for LCD and other flat-panel display driver semiconductors, experienced sharp declines during such periods as a result of intense price competition from other independent testing and assembly companies that attempt to maintain high capacity utilization levels in the face of reduced demand.

## **Table of Contents**

To offset the effects of decreasing average selling prices, we will continue to seek to:

improve production efficiency and maintain high capacity utilization rates;

concentrate on testing of high-demand, high-growth semiconductors;

develop new assembly technologies; and

implement new technologies and platforms to shift into higher margin services.

*Market Conditions for the End-User Applications for Semiconductors.* Market conditions in the semiconductor industry, to a large degree, track those for their end-user applications. Any deterioration in the market conditions for the end-user applications of semiconductors that we test and assemble may reduce demand for our services and, in turn, materially adversely affect our financial condition and results of operations. Our net revenue is largely attributable to fees from testing and assembling semiconductors for use in personal computers, consumer electronic products, display applications and communications equipment. The markets for these products are intensely competitive, and a significant decrease in demand could put pricing pressure on our testing and assembly services and negatively affect our earnings.

*Change in Product Mix.* Declines in average selling prices have been partially offset over the last three years by a change in our revenue mix. In particular, revenue from testing and assembly of LCD and other flat-panel display driver semiconductors and 12-inch wafer processing have increased as a percentage of our total net revenue. We intend to continue focusing on testing and assembling more semiconductors that provide higher margins and developing and offering new technologies in testing and assembly services, in order to mitigate the effects of declining average selling prices on our profitability.

## **Recent Acquisitions**

On April 1, 2004, PlusMOS Technologies Inc., or PlusMOS, merged into CHANTEK ELECTRONIC CO., LTD., or Chantek, in a stock-for-stock merger, with Chantek as the surviving entity. Chantek provides semiconductor assembly services for low-density volatile and non-volatile memory semiconductors, consumer semiconductors and microcontroller semiconductors, and subsequent to the merger, also manufactures, designs and sells DRAM modules. Upon the consummation of the merger, ChipMOS Taiwan held a 34.2% interest in Chantek, and Chantek became one of our consolidated subsidiaries as of April 1, 2004. We currently expect the consolidation of Chantek will affect our financial results as follows:

our revenue is expected to increase as a result of the inclusion of revenue generated by Chantek, including revenue from activities previously conducted by PlusMOS;

our consolidated current liabilities are expected to increase by approximately NT\$1,038 million, an increase of approximately 17% as of March 31, 2004; and

our consolidated long-term liabilities are expected to increase by approximately NT\$277 million, an increase of approximately 10% as of March 31, 2004.

On April 30, 2004, WORLD-WIDE TEST Technology Inc., or WWT, a Taiwan-based logic testing company, merged into ChipMOS Logic, one of our majority-owned subsidiaries, with ChipMOS Logic as the surviving entity. We expect to consolidate our mixed-signal semiconductor testing services into the combined entity and provide mixed-signal semiconductor testing services to both our existing customers and WWT's customers through ChipMOS Logic after the acquisition. We also expect this merger will have an impact on our results of operations, cash flow from operations and financial position for future periods as the financial position and results of the combined entity will be consolidated into our financial results starting from April 30, 2004.

We expect this merger will affect our financial results as follows:

our revenue from mixed-signal semiconductor testing services is expected to increase as a result of the inclusion of revenue from certain customers of WWT who we expect to be customers of ChipMOS Logic;

**Table of Contents**

our consolidated net property, plant and equipment will increase by approximately NT\$1,600 million, an increase of approximately 12% as of April 30, 2004, thus increasing our depreciation expenses; and

our consolidated short-term debt will increase by approximately NT\$221 million, an increase of approximately 19% as of April 30, 2004.

**Contemplated Offering of Common Shares**

On May 21, 2004, we filed with the U.S. Securities and Exchange Commission, or SEC, a registration statement on Form F-3, as amended on June 14, 2004, with respect to the proposed offering of up to 20,125,000 common shares by ChipMOS Bermuda and up to 8,625,000 common shares by Mosel Vitelic Inc., our principal shareholder. We will not receive any of the proceeds from the sale of the common shares by Mosel. We currently contemplate to use the main portion of the net proceeds from the proposed offering of common shares by ChipMOS Bermuda to finance our operations in Mainland China, and the balance to fund our working capital requirements and potential future merger and acquisition activities. We currently intend to complete the proposed offering in the third quarter of 2004, subject to market conditions. See Item 3. Key Information Risk Factors Risks Relating to Our Business A failure to raise sufficient funds through, or to complete, our currently proposed offering of common shares could increase the expenses related to, or delay, our efforts to restructure our control of Modern Mind and ChipMOS Shanghai and our Mainland China operations and potential future merger and acquisition activities, for risks associated with the proposed offering.

**Net Revenue**

We conduct our business according to our four main business segments: <sup>(1)</sup> testing services for memory and mixed-signal semiconductors, (2) assembly services for memory and mixed-signal semiconductors, (3) LCD and other flat-panel display driver semiconductor testing and assembly services, and (4) semiconductor turnkey services, whereby we purchase fabricated wafers and sell tested and assembled semiconductors and, from 2003, also conduct certain trading activity. The following table sets forth, for the periods indicated, our consolidated net revenue for each segment.

	Year ended December 31,			
	2001	2002	2003	2003
	NT\$	NT\$	NT\$	US\$
	(in millions)			
Testing				
Memory	\$ 2,139.4	\$ 2,254.2	\$ 2,890.3	\$ 85.0
Mixed-signal	103.3	76.9	265.5	7.8
Total testing	2,242.7	2,331.1	3,155.8	92.8
Assembly				
Memory	1,610.9	1,404.5	2,701.4	79.5
Mixed-signal		10.7	27.5	0.8
Total assembly	1,610.9	1,415.2	2,728.9	80.3
LCD and other flat-panel display driver semiconductor testing and assembly	131.5	991.8	1,683.5	49.5
Semiconductor turnkey <sup>(1)</sup>	1,260.0	1,787.8	1,458.3	43.0
Total	\$ 5,245.1	\$ 6,525.9	\$ 9,026.5	\$ 265.6

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

- (1) In 2003, includes trading revenue generated by ChipMOS Far East.

Our net revenue consists primarily of service fees for testing and assembling semiconductors, and to a lesser extent, fees from equipment rentals to semiconductor manufacturers for engineering testing, less allowances for product returns. We expanded the scope of our testing services from memory semiconductors to mixed-signal semiconductors in the third quarter of 1999 in response to the growth opportunity in that segment. In the third quarter of 2000, we began providing testing and assembly services for LCD and other flat-panel display driver semiconductors. In early 1999, we introduced our semiconductor turnkey services to utilize our excess capacity available from time to time.



## **Table of Contents**

Some of our customers have recently entered into agreements with us, under which we reserve an agreed capacity for such customers and under which such customers commit to place orders in the amount of the reserved capacity through 2005 and 2006, some of which may be reduced by these customers under the agreements. Sixty-two percent of our total current capacity is currently reserved under the above mentioned capacity guarantee contracts. However, most of our other customers generally do not place purchase orders far in advance and our contracts with customers generally do not require minimum purchases of our products or services. Our customers' purchase orders have varied significantly from period to period because demand for their products is often volatile.

Our financial condition and results of operations have also been, and are likely to continue to be, affected by price pressures on our service fees, which tend to decline in tandem with the declining average selling prices of the products we test and assemble over the course of their product and technology life cycles. In order to maintain our margins, it is necessary to offset the fee erosion by continually improving our production efficiency and maintaining high capacity utilization rates. We also plan to continue to develop and implement new technologies and expand our services into higher-margin segments. These efforts require significant upfront investment in advance of incremental revenue, which could impact our margins.

## **Pricing**

We price our testing fees primarily based on the cost of testing the products to our customers' specifications, including the costs of the required material and components, the depreciation expenses relating to the equipment involved and our overhead expenses, and with reference to prevailing market prices. Accordingly, the testing fee for a particular product would principally depend on the time taken to perform the tests, the complexity of the product and the testing process, and the cost of the equipment used to perform the test. For example, testing fees for memory semiconductors are significantly higher than those for other products because of the longer time required and the need for burn-in testing.

We price our assembly services on a per unit basis, taking into account the complexity of the package, our costs, including the costs of the required material and components, the depreciation expenses relating to the equipment involved and our overhead expenses, prevailing market conditions, the order size, the strength and history of our relationship with the customer and our capacity utilization.

We price our testing and assembly services for LCD and other flat-panel display driver semiconductors on the basis of our costs, including the costs of the required material and components, the depreciation expenses relating to the equipment involved and our overhead expenses, and the price for comparable services.

Because we purchase fabricated wafers for our turnkey services, we price our semiconductor turnkey services based on the market price of the wafers as well as the factors we use to price our testing and assembly services, as described above.

We offer volume discounts to all customers who purchase large quantities of our services and special discounts to customers who use our turnkey services or all of our vertically integrated services.

## *Revenue Recognition*

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

We generally recognize our revenue upon shipment of tested and assembled semiconductors to locations designated by our customers, including our internal warehouse for customers using our warehousing services. Revenue from product sales is recognized when title of products and risks of ownership are transferred to customers, generally upon shipment of the products. We submit invoices at the time of shipment or delivery and currently require customers to pay within 60 days after the last day of the month during which the invoice was sent, except that we currently require ProMOS Technologies Inc., or ProMOS, to pay within 75 days and Ultima Electronics Corp., or Ultima, and Mosel Vitelic Inc., or Mosel, to pay within 90 days. Prior to July 2001, we extended most customers 60 day payment terms. We have not experienced any significant collection problems. We do not require our customers to provide collateral for payment.

### *Related Party Revenues*

In 2001, 2002 and 2003, 71%, 56% and 56%, respectively, of our net revenue were derived from related parties. While we believe that our transactions with related parties were entered into on an arm's-length basis, we have from time to time extended them favorable payment terms, as discussed in the preceding paragraph. See Item 7. Major Shareholders and Related Party Transactions for more information concerning our related party transactions.

**Table of Contents***Geography and Currency*

We generate most of our net revenue from customers headquartered in Taiwan, which represented 89%, 88% and 84% of our net revenue in 2001, 2002 and 2003, respectively. We also generate net revenue from customers in Japan, the United States, Hong Kong and other countries. Our service fees and revenue are generally denominated in the currency of the jurisdiction in which our facilities are located, for example NT dollars for our Taiwan operations and RMB for our Mainland China operations. As we generate most of our net revenue from Taiwanese customers using our Taiwanese operations, and since most of our labor and overhead costs are denominated in NT dollars, we consider the NT dollar to be our functional currency.

**Cost of Revenue and Gross Profit (Loss)**

Our cost of revenue consists primarily of the following: depreciation and amortization expenses, raw material costs, and labor and overhead expenses, which include royalty payments for licensed technologies, sub-contract fees and rental expenses. 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 as a result of our previous and future acquisitions of testing and assembly equipment and facilities, including our investment in our Mainland China operations. Our profitability depends in part not only on absolute pricing levels for our services, but also on our capacity utilization rates. As of April 30, 2004, we had 364 testers, 311 wire bonders, 74 inner-lead bonders, one stepper and two aligners. We use inner-lead bonders for the assembly of LCD and other flat-panel display driver semiconductors using TCP or COF technology, and wire bonders for thin small outline package, or TSOP, ball-grid array, or BGA, and some other package assembly technologies. Due to the recovery of the semiconductor industry, our average utilization rate for testing of memory and mixed-signal semiconductors increased to 81% in 2003 from 69% in 2002 and 47% in 2001. Our average capacity utilization rate for assembly of memory and mixed-signal semiconductors increased to 89% in 2003 from 60% in 2002 and 43% in 2001. In addition, our average capacity utilization rate for LCD and other flat-panel display driver semiconductor testing and assembly increased to 82% in 2003 from 62% in 2002 and 19% in 2001.

Most of our labor and overhead costs are denominated in NT dollars. However, we also incur costs of revenues and operating expenses associated with testing and assembly services in several other currencies, including Japanese yen, US dollars and RMB. In addition, a substantial portion of our capital expenditures, primarily for the purchase of testing and assembly equipment, has been, and is expected to continue to be, denominated in Japanese yen with much of the remainder in US dollars.

The following table sets forth, for the periods indicated, our gross profit (loss) and our gross profit (loss) margin as a percentage of net revenue.

	Year ended December 31,			
	2001	2002	2003	2003
	NT\$	NT\$	NT\$	US\$
	(in millions, except percentages)			
<b>Gross profit (loss):</b>				
Testing				
Memory	\$ (447.8)	\$ (48.8)	\$ 607.7	\$ 17.9
Mixed-signal	(274.8)	(304.8)	(161.3)	(4.7)
Total testing	(722.6)	(353.6)	446.4	13.2
Assembly				

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Memory	197.5	18.9	538.7	15.8
Mixed-signal		2.0	5.7	0.2
Total assembly	197.5	20.9	544.4	16.0
LCD and other flat-panel display driver semiconductor testing and assembly	(272.5)	126.0	528.2	15.5
Semiconductor turnkey <sup>(1)</sup>	13.4	20.9	48.0	1.4
Total	\$ (784.2)	\$ (185.8)	\$ 1,567.0	\$ 46.1
<b>Gross profit (loss) margin:</b>				
Testing				

**Table of Contents**

	Year ended December 31,			
	2001	2002	2003	2003
	NT\$	NT\$	NT\$	US\$
	(in millions, except percentages)			
Memory	(20.9)%	(2.2)%	21.0%	21.0%
Mixed-signal	(266.1)	(396.7)	(60.8)	(60.8)
Total testing	(32.2)	(15.2)	14.1	14.1
Assembly				
Memory	12.3	1.4	19.9	19.9
Mixed-signal		18.5	20.8	20.8
Total assembly	12.3	1.5	19.9	19.9
LCD and other flat-panel display driver semiconductor testing and assembly	(207.2)	12.7	31.4	31.4
Semiconductor turnkey <sup>(1)</sup>	1.1	1.2	3.3	3.3
Overall	(14.9)%	(2.8)%	17.4%	17.4%

(1) In 2003, includes trading revenue generated by ChipMOS Far East.

**Operating Expenses***Research and Development*

Research and development expenses consist primarily of personnel expenses, amortization expenses relating to technology, expenditures to qualify our services for specific customers and other consulting fees and certification fees paid to third parties. Research and development expenses are recognized as they are incurred. We currently expect to continue to hire a significant number of additional employees in our research and development department. We currently expect that research and development expenses will increase in absolute terms in the future as we expand into new technologies and service offerings.

*Sales and Marketing*

Sales and marketing expenses consist primarily of shipping and handling expenses incurred in delivering products to our customers designated locations, advertising, corporate communications and other marketing expenses, personnel expenses for sales and marketing staff, service marketing expenses and service support expenses. We currently expect marketing expenses to increase in absolute terms in the future, related to the planned growth of our business.

*General and Administrative*

General and administrative expenses consist of salaries and related expenses for executive, finance and accounting, and management information systems personnel, professional fees, bad debt provision, and other corporate expenses. They also include stock-based compensation that is expensed using the intrinsic value-based method. See Item 6. Directors, Senior Management and Employees Share Option Plan for more information concerning our share option plan. We also pay Mosel an annual administrative fee for the provision of certain administrative

services. We expect general and administrative expenses to increase in absolute terms as we add personnel and incur additional expenses related to the growth of our business and operations, particularly our Mainland China operations.

**Other Income (Expenses), Net**

Our other income principally consists of gains on sale of investments, warehouse space rental revenue, interest income, foreign exchange gains and gains on disposal of property, plant and equipment. Our other expenses principally consist of interest expense, investment losses recognized by equity method, financing costs, allowance for losses on short-term investments, losses on disposal of property, plant and equipment and foreign exchange losses. Accordingly, whether we record other income, net or other expenses, net in any fiscal year would depend on the amount of these items.

**Table of Contents**

**Minority Interests and Interest in Bonuses Paid by Subsidiaries**

Minority interests represent the portion of our income that is attributable to the shareholding in our consolidated subsidiaries that we do not own. For 2001 and 2002, the minority interests were attributable to the minority interests owned by Siliconware Precision and other investors in ChipMOS Taiwan. For 2003, the minority interests were attributable to the minority interests owned by Siliconware Precision and other investors in ChipMOS Taiwan and the public shareholders' interest in ThaiLin. Commencing in 2004, minority interests will also include the portion of our income attributable to the shareholdings in Chantek and ChipMOS Logic that we do not own.

Interest in bonuses paid by subsidiaries represents our portion of ChipMOS Taiwan's distributable earnings that are appropriated as bonuses to employees and remuneration to directors and supervisors of ChipMOS Taiwan, as required by ROC regulations and ChipMOS Taiwan's articles of incorporation. None of our subsidiaries paid any such bonuses to directors, supervisors and employees in 2001, 2002 and 2003.

**Net Income (Loss)**

Our business incurred net losses in 2001 and 2002, compared to net profits for 1999 and 2000, primarily due to the overall weak economic conditions in the semiconductor markets we serve. We were again profitable in 2003 with net income of NT\$482 million, due to increased revenue and improved gross margins. We believe our future results will be dependent upon the overall economic conditions in the markets we serve, the competitive environment in which we operate, and our ability to successfully implement our strategy, among other things. For additional information on factors that will affect our future performance, see Item 3. Key Information Risk Factors.

**Table of Contents****Results of Operations**

The following table presents selected operating data as a percentage of net revenue for the periods indicated:

	Year ended December 31,		
	2001	2002	2003
	(percentage of net revenue)		
<b>ROC GAAP:</b>			
Net revenue	100.0%	100.0%	100.0%
Cost of revenue	114.9	102.8	82.6
Gross profit (loss) margin	(14.9)	(2.8)	17.4
Operating expenses:			
Research and development	7.8	5.0	3.3
Sales and marketing	0.7	0.6	0.7
General and administrative	4.7	4.8	4.9
Total operating expenses	13.2	10.4	8.9
Income (loss) from operations	(28.1)	(13.2)	8.5
Other income (expenses), net	(1.5)	(6.1)	(0.9)
Income (loss) before income tax and minority interests and interest in bonuses paid by subsidiaries <sup>(1)</sup>	(29.6)	(19.3)	7.6
Income tax benefit (expense)	(0.6)	(1.5)	0.3
Income (loss) before minority interests and interest in bonuses paid by subsidiaries	(30.2)	(20.8)	7.9
Minority interests	8.6	5.9	(2.8)
Interest in bonuses paid by subsidiaries <sup>(1)</sup>			
Pre-acquisition earnings <sup>(2)</sup>			0.2
Net income (loss)	(21.6)%	(14.9)%	5.3%

(1) Refers to bonuses to directors, supervisors and employees.

(2) Represents our share of pre-acquisition profits of ThaiLin prior to December 1, 2003, the date when we began to consolidate the accounts of ThaiLin.

**Year Ended December 31, 2003 Compared to Year Ended December 31, 2002**

**Net Revenue.** Our net revenue increased by NT\$2,501 million, or 38%, to NT\$9,027 million (US\$266 million) in 2003 from NT\$6,526 million in 2002 as a result of an increase in revenue from all our services except semiconductor turnkey services. Net revenue from assembly services for memory and mixed-signal semiconductors increased by NT\$1,314 million, or 93%, to NT\$2,729 million (US\$80 million) as a result of an increase in volume for these services due to an increase in demand resulting from the continued recovery of the semiconductor industry in 2003. Net revenue from testing services for memory and mixed-signal semiconductors increased by NT\$825 million, or 35%, to NT\$3,156 million (US\$93 million) primarily due to an increase in volume for these services as a result of an increase in demand due to the continued recovery of the semiconductor industry in 2003. Our revenue from LCD and other flat-panel display driver semiconductor testing and assembly services



increased by NT\$692 million, or 70%, to NT\$1,683 million (US\$50 million), due to increases in both volume and price for these services as a result of a continued increase in demand for end-use applications for LCD and other flat-panel display driver semiconductors in 2003. Our revenue from semiconductor turnkey services decreased by NT\$330 million, or 18%, to NT\$1,458 million (US\$43 million) due to the increase in customer orders for our testing and assembly services.

**Cost of Revenue and Gross Margin.** Cost of revenue increased by NT\$748 million, or 11%, to NT\$7,460 million (US\$220 million) in 2003 from NT\$6,712 million in 2002. This increase was primarily due to an increase of NT\$534 million in overhead expenses, an increase of NT\$349 million in other costs and an increase of NT\$182 million in labor costs, which was partially offset by a decrease of NT\$239 million in raw material costs associated with semiconductor turnkey services as a result of a decrease in the volume of semiconductor turnkey services and a decrease of NT\$31 million in inventory revaluation allowance. Overhead expenses increased primarily due to an

---

**Table of Contents**

increase of NT\$183 million in subcontract fees, an increase of NT\$125 million in salaries for certain supervisors in our fabs, an increase of NT\$83 million in expensable equipment in service, an increase of NT\$81 million in maintenance costs and inventory supplies, and an increase of NT\$41 million in rental expenses.

Gross profit margin was 17% in 2003, compared to a gross loss margin of 3% in 2002, as our gross profit increased to NT\$1,567 million (US\$46 million) in 2003 from a gross loss of NT\$186 million in 2002. Our gross profit margin for assembly services for memory and mixed-signal semiconductors increased from 2% in 2002 to 20% in 2003, primarily because of a decrease in unit cost for assembly services for memory and mixed-signal semiconductors. Our gross profit margin for testing services for memory and mixed-signal semiconductors was 14% in 2003, compared to a gross loss margin of 15% in 2002, primarily due to the increase in our utilization rate in testing services for memory and mixed-signal semiconductors. Our gross profit margin for LCD and other flat-panel display driver semiconductor testing and assembly services increased to 31% in 2003 from 13% in 2002, primarily due to an increase in utilization rate and a decrease in unit cost. Our gross profit margin for semiconductor turnkey services increased to 3% in 2003 from 1% in 2002, primarily due to the inclusion of trading revenue generated by ChipMOS Far East in 2003. We do not expect to generate significant trading revenue after the first quarter of 2004.

**Research and Development Expenses.** Research and development expenses decreased by NT\$32 million, or 10%, to NT\$295 million (US\$9 million) in 2003 from NT\$327 million in 2002. This decrease was primarily due to a decrease of NT\$80 million in amortization expenses related to technology and other deferred charges, partially offset by an increase of NT\$32 million in depreciation expenses related to research and development equipment, and an increase of NT\$19 million in salary expenses. We expect that our absolute level of research and development expenses will increase in 2004 as we will focus on research and development projects relating to wafer-level chip scale packaging, or WLCSP, and MEMS probe cards for wafer-level testing.

**Sales and Marketing Expenses.** Sales and marketing expenses increased by NT\$28 million, or 75%, to NT\$65 million (US\$2 million) in 2003 from NT\$37 million in 2002. This increase was primarily due to an increase of NT\$17 million in bad debt provisions, an increase of NT\$4 million in sales commissions, and an increase of NT\$3 million in import-export expenses.

**General and Administrative Expenses.** General and administrative expenses increased by NT\$130 million, or 42%, to NT\$440 million (US\$13 million) in 2003 from NT\$310 million in 2002. This increase was primarily due to an increase of NT\$48 million in general and administrative expenses relating to the development and expansion of our operations in Mainland China, an increase of NT\$26 million in salary expenses, an increase of NT\$21 million in fees for professional services, an increase of NT\$13 million in entertainment expenses, and an increase of NT\$3 million in stock option compensation expenses.

**Other Expenses, Net.** Other expenses, net decreased by NT\$321 million, or 81%, to NT\$77 million (US\$2 million) in 2003 from NT\$398 million in 2002. This decrease was primarily due to a decrease of NT\$140 million in allowance for loss on short-term investment, a decrease of NT\$86 million in investment loss recognized by equity method, an increase of NT\$44 million in gain on disposal of property, plant and equipment, an increase of NT\$42 million in gain on sale of investment and an increase of NT\$9 million in interest income, partially offset by an increase of NT\$36 million in foreign exchange loss.

**Income (Loss) Before Income Tax and Minority Interests and Interest in Bonuses Paid by Subsidiaries.** Income before income tax and minority interests and interest in bonuses to directors, supervisors and employees paid by subsidiaries increased to NT\$690 million (US\$20 million) in 2003 from a loss of NT\$1,258 million in 2002. This change was primarily due to an increase in income from operations to NT\$767 million and a decrease of NT\$321 million in other expenses, net.

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

**Income Taxes.** We had an income tax benefit of NT\$29 million (US\$1 million) in 2003, compared to an income tax expense of NT\$98 million for 2002. The NT\$29 million income tax benefit was primarily due to income tax credits of NT\$188 million and a reversal of a valuation allowance of NT\$66 million taken in respect of deferred tax assets, which more than offset our tax expense.

**Minority Interests.** In 2003, we had positive minority interests of NT\$257 million (US\$8 million) compared with negative minority interests of NT\$385 million in 2002. This change was primarily due to our increased operations at our subsidiaries that we do not fully own.

**Net Income (Loss).** As a result of the foregoing, our net income was NT\$482 million (US\$14 million) in 2003 compared to a net loss of NT\$970 million in 2002.

---

**Table of Contents*****Year Ended December 31, 2002 Compared to Year Ended December 31, 2001***

**Net Revenue.** Our net revenue increased by NT\$1,281 million, or 24%, to NT\$6,526 million in 2002 from NT\$5,245 million in 2001, primarily as a result of an increase in revenue from LCD and other flat-panel display driver semiconductor testing and assembly services, turnkey services, and testing services for memory and mixed-signal semiconductors, which was partially offset by a decrease in revenue from assembly services for memory and mixed-signal semiconductors. Our net revenue from LCD and other flat-panel display driver semiconductor testing and assembly services increased by NT\$860 million, or by over six times, to NT\$992 million in 2002, primarily due to an increase in volume for these services in the second half of 2002. Our net revenue from semiconductor turnkey services increased by NT\$528 million, or 42%, to NT\$1,788 million in 2002, due to increases in both demand and price for semiconductor turnkey services as a result of the recovery of the semiconductor industry in 2002. Net revenue from testing services for memory and mixed-signal semiconductors increased by NT\$88 million, or 4%, to NT\$2,331 million in 2002, primarily due to an increase in volume for these services as a result of an increase in demand due to the recovery of the semiconductor industry in 2002. Net revenue from assembly services for memory and mixed-signal semiconductors decreased by NT\$196 million, or 12%, to NT\$1,415 million as a result of a decrease in prices for these services due to a decline of average selling prices.

**Cost of Revenue and Gross Margin.** Cost of revenue increased by NT\$683 million, or 11%, to NT\$6,712 million in 2002 from NT\$6,029 million in 2001. This increase was primarily due to an increase of NT\$447 million in raw material costs associated with turnkey services as a result of an increase in volume of turnkey services, an increase of NT\$222 million in overhead expenses, and an increase of NT\$78 million in labor costs, which was partially offset by a decrease of NT\$115 million in inventory revaluation allowance. Overhead expenses increased primarily due to an increase of NT\$107 million in expensable equipment in service, an increase of NT\$49 million in maintenance costs and inventory supplies, and an increase of NT\$26 million in royalty fee payments to Sharp.

Our gross loss margin was 3% in 2002, compared to 15% in 2001, as gross loss decreased to NT\$186 million in 2002 from NT\$784 million in 2001. Our gross loss margin for testing services for memory and mixed-signal semiconductors decreased to 15% in 2002 from 32% in 2001, primarily due to the increase in our utilization rate in testing services for memory and mixed-signal semiconductors. Our gross profit margin for assembly services for memory and mixed-signal semiconductors decreased from 12% in 2001 to 2% in 2002, primarily due to a decrease in price for assembly services for memory and mixed-signal semiconductors. Our gross margin for LCD and other flat-panel display driver semiconductor testing and assembly increased to a gross profit margin of 13% in 2002 from a gross loss margin of 207% in 2001, primarily due to an increase in utilization rate. Our gross margin for semiconductor turnkey services remained constant at 1% between 2001 and 2002 because the purchase cost of fabricated wafers is included in our costs of semiconductor turnkey services.

**Research and Development Expenses.** Research and development expenses decreased by NT\$82 million, or 20%, to NT\$327 million in 2002 from NT\$409 million in 2001. This decrease was primarily due to a decrease of NT\$56 million in amortization expenses as no additional amortization expenses for the technology know-how transferred by Mosel and Siliconware Precision to ChipMOS Taiwan were incurred in the second half of 2002, and a decrease of NT\$13 million in research and development material.

**Sales and Marketing Expenses.** Sales and marketing expenses increased by NT\$2 million, or 6%, to NT\$37 million in 2002 from NT\$35 million in 2001. This increase was primarily due to an increase of NT\$4 million in entertainment expenses, which was partially offset by a decrease of NT\$2 million in commissions paid to Richtime Technologies Limited.

**General and Administrative Expenses.** General and administrative expenses increased by NT\$62 million, or 25%, to NT\$310 million in 2002 from NT\$248 million in 2001. This increase was primarily due to an increase of NT\$25 million in stock option compensation expenses and our increased spending in general and administrative expenses relating to the development and expansion of our operations in Mainland China.

**Other Expenses, Net.** Other expenses, net increased substantially to NT\$398 million in 2002 from NT\$77 million in 2001. This increase was primarily due to a decrease of NT\$182 million in gain on sale of investment, an increase of NT\$169 million in allowance for loss on investment in Mosel, partially offset by a decrease of NT\$30 million in net interest expense.

**Loss Before Income Tax and Minority Interests and Interest in Bonuses Paid by Subsidiaries.** Loss before income tax and minority interests and interest in bonuses to directors, supervisors and employees paid by subsidiaries decreased by NT\$295 million, or 19%, to NT\$1,258 million in 2002 from NT\$1,553 million in 2001.

## **Table of Contents**

This decrease was primarily due to a decrease of NT\$616 million in operating loss, partially offset by an increase of NT\$321 million in other expenses, net.

**Income Taxes.** Income tax expense in 2002 was NT\$98 million, compared to an income tax expense of NT\$32 million in 2001. The NT\$98 million income tax expense in 2002 was primarily due to a valuation allowance of NT\$181 million taken in respect of deferred tax assets, partially offset by the tax effect of a loss of NT\$1,258 million before income tax and minority interests and interest in bonuses to directors, supervisors and employees paid by a subsidiary.

**Minority Interests.** Our negative minority interests in 2002 decreased to NT\$385 million from NT\$451 million in 2001. This decrease was due to the decrease in our loss of our consolidated subsidiaries that we do not fully own.

**Net Loss.** As a result of the foregoing, our net loss decreased by NT\$165 million, or 15%, to NT\$970 million in 2002 from NT\$1,135 million in 2001.

## **Critical Accounting Policies**

We prepare our consolidated financial statements in conformity with ROC GAAP. Under ROC GAAP, we are required to make certain estimates, judgments and assumptions about matters that are highly uncertain at the time those estimates, judgments and assumptions are made, and our financial condition or results of operations may be materially impacted if we use different but nonetheless reasonable estimates, judgments or assumptions about those matters for that particular period or if we change our estimates, judgments or assumptions from period to period.

Under ROC GAAP, the significant accounting policies are set forth in Note 2 of the notes to the consolidated financial statements. The significant accounting policies that require us to make estimates and assumptions about the effect of matters that are inherently uncertain are discussed below. In connection with the reconciliation of our consolidated financial statements to US GAAP, there are no additional accounting policies that we believe are critical to us.

### ***Allowance for Doubtful Receivables and Sales Returns***

Our accounts receivable balance on our balance sheet is affected by our allowances for doubtful accounts and sales returns, which reflect our estimate of the expected amount of the receivables that we will not be able to collect and our estimate of the expected amount of sales returns.

Our determination of the allowance for doubtful receivables is based on our determination of two different types of reserves. The first type of reserve involves an individual examination of available information regarding any customer that we have reason to believe may have an inability to meet its financial obligations. For these customers, we use our judgment, based on the available facts and circumstances, and record a specific reserve for that customer against amounts due to reduce the receivable to the amount that is expected to be collected. These specific reserves are reevaluated and adjusted as additional information is received. The second type of reserve is a general reserve established for all customers

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

based on a range of percentages applied to aging categories. These percentages are based on historical collection and write-off experience. If circumstances change, our estimates of the recoverability of amounts due to us could be reduced by a material amount. As of December 31, 2003, we provided NT\$30 million (US\$1 million) for the first type of reserve and NT\$42 million (US\$1 million) for the second type of reserve.

Our determination of the allowances for sales returns as of the end of any quarter, is based upon calculating an average historical return rate, usually based on the previous three quarters, and multiplying this by the revenue of that quarter. As of December 31, 2003, we provided NT\$25 million (US\$1 million) for the allowance of sales returns.

The allowance we set aside for doubtful receivables and sales returns was NT\$30 million in 2001, NT\$45 million in 2002 and NT\$97 million (US\$2.9 million) in 2003. The allowances as of December 31, 2001, 2002 and 2003 represented 2%, 2% and 3%, respectively, of our accounts receivable and other receivables as of those dates. The allowance in 2002 and 2003 reflected a reduction of NT\$3 million and NT\$20 million, respectively, in accounts receivable that was charged to marketing expenses. If we were to change our estimate of the allowance for doubtful receivables and sales returns either upward or downward 10%, our operating income would be affected by NT\$14 million (US\$0.4 million) for 2003.

## **Table of Contents**

An increase in our allowance for doubtful receivables and sales returns would decrease our recorded revenue and our current assets.

### ***Inventory Valuation***

We state our inventories at the lower of cost or market value. Market value represents net realizable value for finished goods and work in process and replacement value for raw materials. We use the standard cost method to determine the cost of our inventories, adjusted to approximate weighted-average cost at the end of the period. We periodically evaluate the composition of our inventory and identify slow-moving inventories. Inventory items identified as slow-moving are evaluated to determine whether reserves are required.

In 2001 and 2002, we reserved NT\$66 million and NT\$51 million, respectively, for inventory valuation allowance, mainly due to the decrease in the prevailing market prices for tested and assembled DRAM and SDRAM below the historical cost of our inventory. In 2003, we did not record any inventory allowances because the market price for our inventories was higher than cost in 2003. In addition, we reserved NT\$35 million in 2001, NT\$36 million in 2002 and NT\$42 million (US\$1 million) in 2003 for identified slow-moving inventories.

As of December 31, 2003, we did not record any inventory valuation allowances. If the prevailing market price for our testing and assembling services had been 10% lower, we would have been required to recognize a valuation allowance of approximately NT\$37 million (US\$1 million). That amount would have decreased our inventory value and income for 2003 by 11% and 5%, respectively.

### ***Valuation Allowance for Deferred Tax Assets***

When we have net operating loss carry forwards, investment tax credits or temporary differences in the amount of tax recorded for tax purposes and accounting purposes, we may be able to reduce the amount of tax that we would otherwise be required to pay in future periods. We recognize all existing future tax benefits arising from these tax attributes as deferred tax assets and then, based on our internal estimates of our future profits, establish a valuation allowance equal to the extent, if any, that it is not certain that deferred tax assets will be realized. We record a benefit or expense under the income tax expense/benefit line of our statement of operations when there is a net change in our total deferred tax assets and liabilities in a period. Because the calculation of income tax benefit is dependent on our internal estimation of our future profitability, it is inherently subjective. In 2001 and 2002, we recorded valuation allowances of NT\$772 million and NT\$181 million, respectively, and in 2003, we recorded a reversal of a valuation allowance of NT\$66 million (US\$2 million).

In calculating our valuation allowance for deferred taxes as of December 31, 2003, we have assumed that the semiconductor industry will continue its growth in the next few years. Furthermore, we have assumed that our revenue and profitability will be favorably impacted by this growth in the industry as a whole.

As of December 31, 2003, the ending balance for our valuation allowances was NT\$1,426 million (US\$42million). If our current estimate of future profit had been 10% higher, we would have decreased our valuation allowances accordingly. That, in turn, would have increased our deferred tax assets. In contrast, if our current estimate of future profit had been 10% lower, we would have been required to recognize an additional valuation allowance. That, in turn, would have decreased our deferred tax assets and increased our tax expense for the year ended December 31, 2003. The steady growth in our sales and profitability in 2003 and our near-term outlook as of December 31, 2003 was a key factor in determining the amount of our valuation allowance as of December 31, 2003.



In addition, because the recording of deferred tax assets and income tax benefit is based on our assumptions of levels of profitability, if we subsequently determine that it is unlikely that we will achieve those profit levels, or otherwise believe that we will not incur sufficient tax liabilities to fully utilize the deferred tax assets, we will reduce our deferred tax assets in an amount equal to that determination and incur a charge to income in that amount at that time. Because our expectation for future income is generally less during periods of reduced income, we will be more likely to take significant valuation allowances in respect of income tax assets during those periods of already reduced income.

## **Table of Contents**

### ***Impairment Loss of Long-Lived Assets***

Under US GAAP, we evaluate our long-lived assets for impairment whenever indicators of impairment exist. We record impairment losses on long-lived assets used in operations if events and circumstances indicate that the assets might be impaired and the undiscounted cash flows estimated to be generated by those assets are less than the carrying amount of those items. Assumptions about the carrying value of the long-lived assets require significant judgment on our expected cash flow. Our cash flow estimates are based on historical results adjusted to reflect our best estimate of future market and operating conditions. The net carrying value of assets not recoverable is reduced to fair value. Our management periodically reviews the carrying value of our long-lived assets and this review is based upon our projections of anticipated future cash flows. While we believe that our estimates of future cash flows are reasonable, different assumptions regarding such cash flows could materially affect our evaluations.

In determining whether any impairment charges were necessary as of December 31, 2003, we have assumed that the semiconductor industry will continue its growth in the next few years. Based upon our assumption of growth in the semiconductor industry and our other assumptions in our internal budget, for the purpose of determining whether any impairment charges are necessary as of December 31, 2003, we estimate that our future cash flows, on an undiscounted basis, are greater than our NT\$11,087 million (US\$326 million) in long-lived assets. Any increases in estimated future cash flows would have no impact on the reported value of the long-lived assets. In contrast, if our current estimate of future cash flows from those assets had been 24% lower, those cash flows would have been less than the reported amount of long-lived assets. In that case, we would have been required to recognize an impairment loss that would have significantly increased our net loss before taxes for the year ended December 31, 2003.

### ***Senior Management's Discussion with the Audit Committee***

Our management has discussed the development and selection of the estimates mentioned in the critical accounting policies described above with the audit committee of our board of directors and the audit committee has reviewed our disclosure relating to the critical accounting policies in this section.

### **Liquidity and Capital Resources**

Since our inception, we have funded our operations and growth primarily through the issuance of equity, a mixture of short- and long-term loans and cash flow from operations. As of December 31, 2003, our primary sources of liquidity were cash and cash equivalents (excluding restricted cash and cash equivalents) of NT\$1,731 million (US\$51 million) and NT\$4,897 million (US\$144 million) available to us in undrawn credit facilities, which have expired or will expire between February 2004 and December 2004.

#### *Liquidity*

The following table sets forth our cash flows with respect to operating activities, investing activities, financing activities and the effect of exchange rate changes on cash for the periods indicated.

	Year ended December 31,			
	2001	2002	2003	2003
	NT\$	NT\$	NT\$	US\$
	(in millions)			
Net cash provided by (used in):				
Operating activities	\$ 1,620.5	\$ 1,463.7	\$ 1,877.1	\$ 55.2
Investing activities	(1,409.7)	(3,135.9)	(760.8)	(22.4)
Financing activities	(219.8)	2,978.6	(1,841.5)	(54.2)
Effect of exchange rate changes on cash	(0.4)		(31.4)	(0.9)
Net increase (decrease) in cash	\$ (9.4)	\$ 1,306.4	\$ (756.6)	\$ (22.3)

*Net Cash Provided by (Used in) Operating Activities*

Net cash provided by operating activities totaled NT\$1,877 million (US\$55 million) in 2003, compared to NT\$1,464 million in 2002. The increase in 2003 compared to 2002 was primarily due to a net income of NT\$482 million (US\$14 million) in 2003 compared to a net loss of NT\$970 million in 2002. Our accounts receivables with related parties and our accounts receivables with third parties increased to NT\$1,342 million (US\$39 million) and NT\$1,291 million (US\$38 million), respectively, as of December 31, 2003, from NT\$1,105 million and NT\$562 million in 2002.

**Table of Contents**

million, respectively, as of December 31, 2002. We recorded positive minority interests of NT\$609 million (US\$18 million) in 2003 compared to negative minority interests of NT\$450 million in 2002. Our depreciation and amortization expenses decreased to NT\$2,715 million (US\$80 million) in 2003 from NT\$2,821 million in 2002. The decrease in depreciation and amortization in 2003 was due to the full amortization of technology know-how provided by Mosel and Siliconware Precision and because we incurred less incremental depreciation expenses from the purchase of new equipment.

Net cash provided by operating activities totaled NT\$1,464 million in 2002, compared to NT\$1,620 million in 2001. The decrease in 2002 compared to 2001 was primarily due to an increase in accounts receivable, partially offset by an increase in depreciation and amortization expenses. Our aggregate accounts receivable were NT\$1,667 million as of December 31, 2002, compared to NT\$1,451 million as of December 31, 2001. Our accounts receivables with related parties increased to NT\$1,200 million as of December 31, 2001, primarily as a result of our decision in July 2001 to increase our credit terms to Mosel from 60 days to 120 days after the last day of the month during which the invoice was sent and our decision in November 2001 to increase our credit terms to Ultima from 30 days to 90 days after the last day of the month during which the invoice was sent. We changed our credit terms to Mosel from 120 days back to 60 days in April 2002 and increased our credit terms for Mosel from 60 days to 90 days in June 2002. Our accounts receivables with related parties decreased to NT\$1,105 million as of December 31, 2002 primarily due to the change in credit terms to Mosel. Our depreciation and amortization expenses were NT\$2,821 million in 2002, compared to NT\$2,815 million in 2001. The increase in our depreciation and amortization expenses in 2002 compared to 2001 was due to additional equipment installed in connection with our capacity expansion program. See Results of Operations.

*Net Cash Provided by (Used in) Investing Activities*

Net cash used in investing activities totaled NT\$761 million (US\$22 million) in 2003, compared to NT\$3,136 million in 2002. Net cash used in investing activities primarily reflected expenditures in acquiring properties and equipment, which was NT\$2,402 million (US\$71 million) in 2003 and NT\$2,308 million in 2002. Expenditures in acquiring long-term investments was NT\$15 million (US\$0.4 million) in 2003 and NT\$1,271 million in 2002. We incurred capital expenditures of NT\$2,402 million (US\$71 million) in 2003 for the purchase of testing and wafer sorting equipment for memory semiconductors and NT\$2,308 million in 2002 for the purchase of testing and wafer sorting equipment for LCD and other flat-panel display driver semiconductors.

Net cash used in investing activities totaled NT\$3,136 million in 2002, compared to NT\$1,410 million in 2001. Net cash used in investing activities primarily reflected expenditures in acquiring properties and equipment, which was NT\$2,308 million in 2002 and NT\$1,672 million in 2001. Expenditures in acquiring long-term investments was NT\$1,271 million in 2002 and NT\$11 million in 2001. We incurred capital expenditures of NT\$2,308 million in 2002 for the purchase of testing and wafer sorting equipment for LCD and other flat-panel display driver semiconductors and NT\$1,672 million in 2001 for the purchase of testing equipment for LCD and other flat-panel display driver semiconductor and TCPs.

*Net Cash Provided by (Used in) Financing Activities*

Net cash used in financing activities totaled NT\$1,842 million (US\$54 million) in 2003, compared to NT\$2,979 million provided in 2002. Net cash used in financing activities in 2003 primarily reflected a repayment of a NT\$576 million (US\$17 million) loan from Jesper Limited, NT\$719 million (US\$21 million) repayments on bank loans, NT\$352 million (US\$10 million) repayments on long-term loans, NT\$284 million (US\$8 million) payments on bonds and NT\$159 million (US\$5 million) repayments on commercial papers.

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Net cash provided by financing activities totaled NT\$2,979 million in 2002, compared to NT\$220 million used in 2001. Net cash provided by financing activities in 2002 primarily reflected NT\$1,214 million of net long-term borrowings, NT\$966 million of net short-term borrowings, NT\$576 million of a loan from Jesper Limited to us, and NT\$159 million proceeds from commercial papers.

Net cash used in financing activities totaled NT\$220 million in 2001, primarily reflecting NT\$1,052 million repayment of long-term loans, partially offset by borrowings of NT\$833 million in bank loans.

**Table of Contents***Tabular Disclosure of Contractual Obligations and Commercial Commitments*

The following table summarizes our contractual obligations and commitments as of December 31, 2003 for the periods indicated:

<b>Contractual Obligations</b>	<b>Payments Due by Period</b>				
	<b>Total</b>	<b>Less than 1 year</b>	<b>1-3 years</b>	<b>4-5 years</b>	<b>More than 5 years</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>
			<b>(in millions)</b>		
Long-term debt <sup>(1)</sup>	\$ 4,799.5	\$ 1,145.8	\$ 2,895.1	\$ 758.6	\$
Short-term loans <sup>(1)</sup>	1,574.6	1,574.6			
Working capital loans	1,013.7	1,013.7			
Other short-term obligations	560.9	560.9			
Operating leases	163.1	16.2	31.3	29.9	85.7
Royalty or other license payments <sup>(2)</sup>	252.4	168.4	84.0		
Investment <sup>(3)</sup>	6,967.6	2,124.0	4,843.6		
<b>Total contractual cash obligations</b>	<b>\$ 13,757.2</b>	<b>\$ 5,029.0</b>	<b>\$ 7,854.0</b>	<b>\$ 788.5</b>	<b>\$ 85.7</b>

(1) Includes interest payments. Assumes level of relevant interest rates remains at December 31, 2003 level throughout all relevant periods.

(2) Assumes net revenue from relevant services for calculating royalty or license fees remain constant at 2003 levels.

(3) Represents commitment to build a new facility in Shanghai Qingpu Industrial Zone and commitment to invest in Ultima Technology Corp.

In addition, the following table summarizes our other commercial commitments as of December 31, 2003 for the periods indicated:

<b>Our Commercial Commitments</b>	<b>Amount of Commitment Expiration Per Period</b>				
	<b>Total Amounts Committed</b>	<b>Less than 1 year</b>	<b>1-3 years</b>	<b>4-5 years</b>	<b>Over 5 years</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>
			<b>(in millions)</b>		
Lines of credit	\$ 1,729.7	\$ 1,729.7	\$	\$	\$
Total commercial commitments	\$ 1,729.7	\$ 1,729.7	\$	\$	\$

**Capital Resources**

Our capital expenditure in 2001 was funded by NT\$1,620 million cash flows from operations and NT\$1,078 million in short-term investments. Capital expenditure in 2002 was funded by NT\$1,464 million cash flows from operations and an increase of NT\$1,214 million of long-term borrowings. Capital expenditure in 2003 was funded by NT\$1,877 million (US\$55 million) cash flows from operations and an increase of NT\$223 million (US\$7 million) in bank loans.

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

We have budgeted capital expenditure of approximately NT\$6,134 million for 2004 and NT\$4,860 million for 2005. In connection with the operations in Shanghai, Modern Mind has invested, through ChipMOS Shanghai, US\$47.5 million in the new testing and assembly facility in Shanghai and Modern Mind has committed that it will invest a further US\$202.5 million by June 6, 2005 in the permanent testing and assembly facility. Construction of this permanent facility began in June 2002. On December 26, 2003, ChipMOS Shanghai obtained a loan facility for RMB20 million from the China Construction Bank, of which RMB20 million has been drawn as of that date. The loan has a term of six months and is secured by land use rights with a net book value of RMB43.3 million as of December 31, 2003. We intend to use US\$60 million from the net proceeds of the currently contemplated offering of our common shares for a loan to Modern Mind to repay the outstanding bank debt and to fund a further capital contribution to ChipMOS Shanghai to finance primarily its facility construction costs. In addition, we currently expect to fund ChipMOS Shanghai's remaining investment requirement through issuance of additional debt or equity securities and/or long-term borrowings. If sufficient funds are not raised to meet the remaining investment requirement for ChipMOS Shanghai by July 6, 2005 and an extension is not granted by the relevant PRC regulatory authority by that time, ChipMOS Shanghai's business license may become automatically void and ChipMOS Shanghai may have to be liquidated. Please see Item 3. Key Information Risk Factors Risks Relating to Our Business. If Modern Mind fails to invest an additional US\$202.5 million into ChipMOS Shanghai by July 6, 2005, ChipMOS Shanghai's business license may become automatically void and ChipMOS Shanghai may have to be liquidated, which could hurt our growth prospects and potential future profitability for further details. From time

---

**Table of Contents**

to time, subject to market conditions, we will also consider issuing additional debt or equity securities and raising short- or long-term borrowings to fund our capital expenditure. For instance, we currently contemplate to raise additional funds through the issuance of common shares primarily to finance our operations in Mainland China, and to fund our working capital requirements and potential future merger and acquisition activities. See Contemplated Offering of Equity Securities and Item 3. Key Information Risk Factors Risks Relating to Our Business A failure to raise sufficient funds through, or to complete, our currently proposed offering of common shares could increase the expenses related to, or delay, our efforts to restructure our control of ChipMOS Shanghai and our Mainland China operations and potential future merger and acquisition activities for further details.

As of December 31, 2003, we had long-term bank loans amounting to NT\$2,932 million (US\$86 million), NT\$2,397 million (US\$85 million) of which are collateralized by equipment and buildings and NT\$35 million (US\$1 million) of which are collateralized by time deposits. NT\$277 million (US\$8 million) of these loans are floating rate loans (5.375% as of December 31, 2003 and 5.425% as of December 31, 2002) repayable semi-annually from November 2000 to December 2004. NT\$9 million (US\$0.2 million) of these loans are floating rate loans (5.655% as of December 31, 2003) repayable quarterly from January 2000 to January 2004. NT\$32 million (US\$0.9 million) of these loans are floating rate loans (5.655% as of December 31, 2003) repayable quarterly from April 2001 to January 2006. NT\$80 million (US\$2 million) of these loans are floating rate loans (3.875% as of December 31, 2003) repayable quarterly from March 2004 to September 2008. NT\$2,000 million (US\$59 million) of these loans are floating rate loans (4.275% as of December 31, 2003 and 4.75% as of December 31, 2002) repayable semi-annually from September 2004 to September 2007. NT\$500 million (US\$15 million) of these loans are floating rate loans (4.40% as of December 31, 2003 and 4.875% as of December 31, 2002) repayable semi-annually from September 2004 to September 2007. NT\$35 million (US\$1 million) is an interest-free research and development subsidy from the government for developing known-good-die solutions and COF assembly and testing technology, which is repayable quarterly from July 2003 to September 2006. As of December 31, 2003, no additional credit under this loan was available as the credit line expired upon completion of the research project.

On December 31, 2003, we obtained a syndicated loan facility in the amount of NT\$2,000 million from a group of financial institutions for a term of four years, and this loan facility is secured by our testing and assembly equipment located within our facility at the Hsinchu Science Park and the Southern Taiwan Science Park and our buildings at the Southern Taiwan Science Park. As of April 30, 2004, NT\$400 million was drawn under this loan facility.

On July 24, 2002, we obtained a syndicated loan facility in the amount of NT\$2,500 million from a group of financial institutions for a term of five years, and this loan facility is secured by our testing and assembly equipment located within our facility in Hsinchu Science Park and Southern Taiwan Science Park. As of December 31, 2003, this loan was fully drawn. Under this loan facility, ChipMOS Taiwan is required to ensure that we and Siliconware Precision collectively maintain a percentage of direct ownership in ChipMOS Taiwan of at least 50% of outstanding shares and have control over its operations. As of April 30, 2004, we and Siliconware Precision have 99.0% of direct ownership in ChipMOS Taiwan and have control over its operations.

Certain loan agreements and indentures of ChipMOS Taiwan contain covenants that, if violated, could result in the obligations under these agreements becoming due prior to the originally scheduled maturity dates. These covenants include financial covenants that require us to:

maintain a current assets to current liabilities ratio above 1:1;

maintain total indebtedness to shareholders' equity (excluding goodwill and other intangible assets) ratio below 1.2:1;

maintain the earnings before interest, taxes, depreciation and amortization to gross interest expense ratio above 4:1; and



maintain the balance of guaranteed to issued capital ratio below 1:2.

As of December 31, 2003, we were in compliance with our financial covenants.

In 2001, ThaiLin issued an aggregate amount of NT\$800 million convertible bonds due July 4, 2006, of which NT\$565 million have been either redeemed or converted as of December 31, 2003.

**Table of Contents**

In addition, a substantial portion of our short-term and long-term borrowings may be subject to repayment upon a material deterioration of our financial condition, results of operations or our ability to perform under the loan agreements.

Set forth below are the maturities of our long-term bank loans outstanding as of December 31, 2003:

	(in millions)	
During 2004	NT\$ 692.8	US\$ 20.4
During 2005	756.6	22.3
During 2006	740.0	21.8
During 2007	730.3	21.5
During 2008	12.0	0.3
	NT\$ 2,931.7	US\$ 86.3

As of December 31, 2003, certain of our land, buildings and equipment with an aggregate net book value of NT\$4,979 million (US\$147 million) and time deposits in the aggregate amount of NT\$43 million (US\$1 million) were pledged as collateral in connection with our long-term borrowings.

Our unused credit lines for short-term loans as of December 31, 2003 were NT\$1,977 million (US\$58 million), which have expired and will expire between February 2004 and December 2004. We are currently in the process of negotiating with our existing lenders to extend such credit facilities. As of December 31, 2003, we had available undrawn long-term credit facilities totaling NT\$2,920 million (US\$86 million).

As of December 31, 2003, we had short-term working capital loans of NT\$1,008 million (US\$30 million) with floating rates between 1.4% to 4.536%, which are due in June 2004. NT\$480 million of these working capital loans have been extended to June 2004. We also have a letter of credit loan for imports of machinery in the amount of NT\$559 million (US\$16 million), which is due on or before September 13, 2004.

We believe our financial resources will enable us to meet our capital spending and other capital needs, other than with respect to the required investments in Shanghai, for the next 18 months. We currently believe that we will be able to borrow additional amounts and issue additional debt and/or equity securities on a timely basis to fund our capital needs, including ChipMOS Shanghai's planned investment in the new Shanghai production facility.

From time to time, we evaluate possible investments and acquisitions in Taiwan, Mainland China and elsewhere and may, if a suitable opportunity arises, acquire additional capacity by making an investment or acquisition at an attractive price. We plan to finance these expenditures from cash flow from operations, amounts available under existing credit facilities and the issuance of securities.

**Off-Balance Sheet Arrangements**

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

As of December 31, 2003, we had no off-balance sheet arrangements.

### US GAAP Reconciliation

Our consolidated financial statements are prepared in accordance with ROC GAAP, which differs in certain material respects from US GAAP. The following table sets forth a comparison of our net income, total assets and shareholders' equity in accordance with ROC GAAP and US GAAP for the periods indicated:

	Year ended and as of December 31,			
	2001	2002	2003	2003
	NT\$	NT\$ (in millions)	NT\$	US\$
Net income in accordance with:				
ROC GAAP	\$ (1,134.9)	\$ (970.3)	\$ 482.4	\$ 14.2
US GAAP	(993.5)	(913.4)	485.3	14.3
Total assets in accordance with:				
ROC GAAP	16,101.3	17,953.7	19,665.7	578.6
US GAAP	16,123.5	18,020.9	19,633.5	577.6
Shareholders' equity in accordance with:				
ROC GAAP	7,599.2	6,713.3	7,248.2	213.2
US GAAP	7,641.0	6,760.2	7,221.3	212.4

## **Table of Contents**

Note 27 to our financial statements describes the principal differences between ROC GAAP and US GAAP as they relate to us, and a reconciliation to US GAAP of certain items, including net income and shareholders' equity. Differences between ROC GAAP and US GAAP which have an effect on our net income as reported under ROC GAAP relate to, among other things, amortization of technology transfer in payment of capital stock, interest capitalization, and the minority interests in ChipMOS Taiwan.

## **Taxation**

ChipMOS Taiwan was granted an exemption from Republic of China income taxes for a period of four years on income attributable to the expansion of its production capacity as a result of purchases of new equipment funded by capital increases in 1998, 1999 and 2000. The tax exemption relating to the expansion of production capacity in 1998 and 1999 expired on December 31, 2002, which resulted in tax savings for ChipMOS Taiwan of approximately NT\$5 million in 1999 and NT\$163 million in 2000. The tax exemption relating to the expansion of production capacity in 2000 will expire on December 31, 2005, which resulted in tax savings for ChipMOS Taiwan of approximately NT\$34 million in 2003.

ChipMOS Taiwan is also entitled to other tax incentives generally available to Taiwan companies under the Statute of Upgrading Industries, including tax credits of up to 35% for certain research and development and employee training expenses (and, if the amount of expenditure exceeds the average amount of expenditure for the preceding two years, 50% of the excess amount may be credited against tax payable) and from 5% to 20% for certain investments in automated equipment and technology. These tax credits must be utilized within five years from the date on which they were earned. In addition, except for the last year of the five-year period, the aggregate tax reduction from these tax credits for any year cannot exceed 50% of that year's income tax liability. Such tax credits resulted in tax savings for ChipMOS Taiwan of approximately NT\$64 million in 2000. ChipMOS Taiwan did not enjoy any tax savings from such tax credits in 2001 and 2002. In 2003, tax credits resulted in tax savings for ChipMOS Taiwan of approximately NT\$83 million.

Net income generated by ChipMOS Taiwan after January 1, 1998, which is not distributed in the year following the year the income was generated, is subject to income tax at the rate of 10.0%. If that net income is subsequently distributed, the income tax previously paid on that income is credited against the amount of withholding tax payable by shareholders, who are not individuals or entities of the Republic of China (for taxation purposes), in connection with the distribution.

In accordance with the relevant tax rules and regulations of the PRC, ChipMOS Shanghai enjoys income tax exemptions for the first two profitable years and a 50% reduction of the applicable income taxes in the following three years. Any tax losses can only be carried forward for five years.

**Table of Contents****Item 6. Directors, Senior Management and Employees****Directors and Executive Officers**

Our board of directors currently comprises seven directors who are elected by our shareholders. Due to the resignation of Mr. John Yee Woon Seto, we currently have one vacancy on our board of directors. The number of directors, which must not be less than three nor greater than eight according to our bye-laws, is set by our directors but so long as a quorum of directors remains in office, casual vacancies on the board may be filled by the board. The quorum for a meeting of the directors is set by the board and otherwise is two in number. The chairman of the board is appointed from among the members of the board.

There is no requirement under Bermuda law that a director be a shareholder.

The following table sets out the names of our directors and executive officers, their position with our company and their age. The business address for each of our directors and executive officers is No. 1, R&D Road1, Hsinchu Science Park, Taiwan, Republic of China.

<u>Name</u>	<u>Age</u>	<u>Position</u>	<u>Term Expires</u>
Shih-Jye Cheng	46	Chairman and Director/Chief Executive Officer	2005
Hung-Chiu Hu	65	Director	2006
Hsing-Ti Tuan	60	Director	2006
Min-Liang Chen	53	Director	2004
Pierre Laflamme	58	Director	2004
Jwo-Yi Miao	55	Director	2005
Robert Ma Kam Fook	53	Director	2004
John Yee Woon Seto	60		2006 <sup>(1)</sup>
Shou-Kang Chen	43	Chief Financial Officer	
Peter Ku	56	President of ChipMOS Shanghai	
Lafair Cho	42	President of ThaiLin	

(1) Mr. John Yee Woon Seto resigned as our director on May 19, 2004.

*Shih-Jye Cheng* has served as one of our directors and chief executive officer since inception. He was our deputy chairman from our inception to May 2004 and became our chairman in May 2004. He has also served as a director and president of ChipMOS Taiwan since 1997 and the chairman of ChipMOS Taiwan since June 2003, the chairman of ChipMOS (Shanghai) since 2002 and the chairman of ChipMOS Logic TECHNOLOGIES Inc. since January 2004. He has also been Chairman of ThaiLin Semiconductor Corp. and CHANTEK ELECTRONIC CO., LTD. since 2002 and Advanced Micro Chip Technology Co., Ltd. since 2003. He was a director of Ultima Electronics Corp. from 2000 to June 2003. He was a division head of the back-end operation of Mosel Vitelic Inc. from 1992 to 1997. Mr. Cheng has a master's degree in business administration from Saginaw Valley State University.

*Hung-Chiu Hu* has served as one of our directors since our inception. He was our chairman from our inception to May 2004 and the chairman of ChipMOS Taiwan from 1999 to June 2003. He has also been the chairman of Mosel Vitelic Inc. since 1991, the president of Mosel Vitelic Inc. since 1993 and the chairman of ProMOS Technologies Inc. since 1997. Mr. Hu also serves as a director of DenMOS Technology Inc. Mr. Hu completed a program in information science at University of California at Los Angeles in 1976 and holds a bachelor's degree from National

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Cheng Kung University in Taiwan. See Item 3. Key Information Risk Factors Risks Relating to Our Relationship with Mosel The ongoing criminal investigation involving Mr. Hung-Chiu Hu, our former chairman, could have a material adverse effect on our business or cause our stock price to decline for information relating to an ongoing criminal investigation.

*Hsing-Ti Tuan* has served as a director of our company since August 2000 and as the deputy chairman of ProMOS Technologies Inc. since June 2003. Mr. Tuan has served as a director of ProMOS Technologies Inc. since 1997. He also served as the executive vice president of the research and development division of Mosel Vitelic Inc. from 1996 to June 2003. He has been the president of Mosel Vitelic Corp., USA. since 1994. He was also the vice president of Mosel Vitelic Inc. from 1992 to 1996. Mr. Tuan also serves as a director of Mosel Vitelic Inc. and SyncMOS Technology International. Mr. Tuan holds a master's degree in electrical engineering from Utah State University and a bachelor's degree in electrical engineering from National Cheng Kung University in Taiwan.

## **Table of Contents**

*Min-Liang Chen* has served as one of our directors since January 2001. He has also served as a director and president of ProMOS Technologies Inc. since 1997 and as the deputy chairman of ProMOS Technologies Inc. since June 2003. He was a vice president of ProMOS Technologies Inc. in 1996 and 1997. He was also a vice president of Mosel Vitelic Inc. from 1992 to 1996 and has served as a director of Mosel Vitelic Inc. since 1999. Mr. Chen holds a Ph.D. degree in electrical engineering from Rutgers University and a master's degree from National Tsing-Hua University in Taiwan.

*Pierre Laflamme* has served as a director of our company since February 2001. He was the president and chief operating officer of SGF Tech Inc. from January 2000 to July 2003. Before that, he was the vice president of high technology investments of Société Générale de Financement du Québec from 1997 to 2000. He was the senior vice president of Solidarity Fund from 1996 to 1997 and a deputy minister of the Quebec Prime Minister's Department from 1994 to 1996. Mr. Laflamme holds a bachelor's degree in Architecture from Université de Montréal.

*Jwo-Yi Miao* has served as a director of our company since February 2001. He has also been the co-chairman of Pacific Energytech Co., Ltd. since 1999, supervisor of ChipMOS Taiwan since 1997, Director of Tamura Kaken Corporation since 1996, co-chairman of Corion Industrial Corp. since 1991, chairman of E-Fong Group since 1986 and director of Ta-Fong Electro-Chemical Industry Co., Ltd. since 1971 and president of Pacific Tamura Technology Co. Ltd. since 2001. Mr. Miao holds a degree from Tamkang University in Taiwan.

*Robert Ma Kam Fook* has served as a director since December 2001. He has also been a managing director of Trident (Asia) Limited since 1993, a managing director of Jensmart International Ltd. since 1998, a managing director of Wynfair (Asia) Ltd. since 2001 and a director of China Core Capital Management Ltd. since October 2001. He was a managing director of Laidlaw Pacific Financial Services (Holdings) Ltd. from 1994 to 2001 and an executive director of Sino-Pacific Light Industry Fund Managing Ltd. from 1994 to 2003. Mr. Ma received his Bachelor of Laws degree from The Nottingham Trent University and an honorary degree in Business Administration from The Chinese University of Hong Kong. Mr. Ma is a member of the Institute of Chartered Accountants in England and Wales, the Institute of Chartered Accountants of Canada and a fellow member of Hong Kong Society of Accountants.

*John Yee Woon Seto* was a director of our company from August 2000 to May 2004. On May 19, 2004, he resigned as our director. He has served as the executive vice president of the business group of Mosel Vitelic Inc. since 1996 and before that he was the vice president of the memory business group. He was the senior vice president of strategic business development of Vitelic Corporation USA. He has been a director of Mosel Vitelic Inc. since 1996. He served on the board of directors for a number of companies, such as ProMOS Technologies Inc. and Ultima Electronics Corp. He holds a Ph.D. in electrical engineering from the University of California at Berkeley.

*Shou-Kang Chen* has served as our chief financial officer, investor relations officer and head of the finance division of ChipMOS TECHNOLOGIES INC. since 2002. He was the head of our strategy development department from 2000 to 2001. He was the department head of the quality lab of ChipMOS TECHNOLOGIES INC. from 1998 to 2000. Mr. Chen holds a bachelor's degree in mining and petroleum engineering and a master of science degree and a Ph.D. degree from the graduate school of mining, metallurgy and material science of National Cheng Kung University in Taiwan.

*Peter Ku* has served as a president of ChipMOS TECHNOLOGIES (Shanghai) LTD. since 2002. He was vice president of ChipMOS Taiwan from 2001 to 2002, president of Walton Advanced Electronics Ltd. from 1998 to 2001 and a director of Microchip Technology Taiwan from 1995 to 1998. Mr. Ku received a master's degree in solid state electronics from National Cheng Kung University in Taiwan.

*Lafair Cho* has served as ThaiLin Semiconductor Corp.'s president since December 1, 2003 and a director since December 30, 2002. He was vice president of ThaiLin Semiconductor Corp. from February 1, 2003 to November 30, 2003. He has also served as vice president of the memory

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

production group of ChipMOS TECHNOLOGIES INC. since July 2003 and as a director of ChipMOS TECHNOLOGIES INC. since October 2003. He served as a deputy assistant vice president of the IC testing division of ChipMOS TECHNOLOGIES INC. from April 2000 to December 2001 and as an assistant vice president of the IC testing division of ChipMOS TECHNOLOGIES INC. from January 2002 to January 2003. He served as manager of production material control of Mosel Vitelic Inc. from 1993 to 1997. He holds a master's degree in industrial management from National Cheng Kung University in Taiwan.

-64-



## **Table of Contents**

### **Board Practice and Terms of Directorship**

Our board of directors consists of three classes of directors. The first class of directors, consisting of Min-Liang Chen, Pierre Laflamme and Robert Ma Kam Fook, is up for re-election at the annual general meeting in 2004 and then every third annual general meeting thereafter. The second class, consisting of Shih-Jye Cheng and Jwo-Yi Miao, is up for re-election at the annual general meeting in 2005 and then every third annual general meeting thereafter. The third class, consisting of Hung-Chiu Hu and Hsing-Ti Tuan, is up for re-election at the annual general meeting in 2006 and then every third annual general meeting thereafter. Due to the resignation of John Yee Woon Seto on May 19, 2004, there is currently a vacancy in the third class of directors. Under our bye-laws, our board of directors has the power to appoint a person to fill this vacancy. We currently intend to fill this vacancy by appointing a director that would qualify as an independent director under the rules of the Nasdaq Stock Market.

Any director vacates his or her office if he or she:

is prohibited by law from being a director or ceases to be a director by virtue of the Companies Act 1981 of Bermuda;

resigns from his or her office;

becomes bankrupt under the laws of any country or compounds with his or her creditors;

becomes of unsound mind or a patient for the purpose of any statute or applicable law relating to mental health and the board resolves that his or her office is vacated; or

is removed by a resolution passed by our shareholders at a special general meeting called for that purpose.

### **Share Ownership**

As of April 30, 2004, none of our directors or executive officers held, for his or her own account, 1% or more of our outstanding common shares.

### **Compensation and Compensation Committee**

The aggregate compensation paid in 2003 to our directors and our executive officers, including cash and share bonuses, was approximately NT\$12 million (US\$0.4 million). In 2003, we granted options to purchase 430,000 of our common shares to our directors and executive officers as set forth in the table below. 205,000 of these options will vest over a period of four years, with an equal proportion vesting on each of December 13, 2003, 2004, 2005 and 2006. 225,000 of these options will vest over a period of four years, with an equal proportion vesting on each of October 1, 2004, 2005, 2006 and 2007.

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

### Number of shares issuable upon

<u>exercise of options</u>	<u>Expiration date</u>	<u>Exercise price</u>	<u>Consideration paid for options granted</u>
205,000	December 13, 2008	US\$ 0.765	None
225,000	October 1, 2009	US\$ 1.7425	None

We did not set aside any money for pension, retirement or similar benefits for our directors in 2003.

We do not provide our directors with any benefits upon termination of employment.

Our compensation committee currently consists of Pierre Laflamme, Robert Ma Kam Fook and Jwo-Yi Miao. This committee reviews and recommends to our board of directors the compensation of all our directors and officers on at least an annual basis.

### **Audit Committee**

Under our audit committee charter adopted on February 28, 2001 and amended on May 14, 2004, our audit committee will:

be directly responsible for the appointment, compensation, retention and oversight of the work of our external auditors or any other public accounting firm engaged for the purpose of preparing or issuing an audit report or to perform audit, review or attestation services;

**Table of Contents**

oversee our accounting principles and policies, financial reporting and internal control over financial reporting, internal audit controls and procedures, financial statements and independent audits;

meet with management, our external auditors and, if appropriate, the head of the auditing department to discuss audited financial statements, audit reports or other communications, including, without limitation, any audit problems or difficulties relating to our financial statements, any major issues regarding accounting principles and the adequacy of our internal control over financial reporting;

pre-approve, or adopt appropriate procedures to pre-approve all audit and non-audit services, if any, provided to us by our external auditors;

establish our internal complaints procedure for the receipt, retention and treatment of complaints received by us regarding accounting, internal accounting controls or auditing matters, and for the confidential, anonymous submission thereof by our employees;

evaluate the independence of and discuss with management the timing and process for implementing the rotation of the audit partners of the outside auditors; and

review and approve all our related party transactions.

The audit committee currently consists of Pierre Laflamme, Robert Ma Kam Fook and Jwo-Yi Miao, all of whom are independent directors according to Nasdaq's requirements. Our board of directors has determined that there is at least one audit committee financial expert serving on our audit committee and this audit committee financial expert is Mr. Robert Ma Kam Fook.

**Employees**

The following table sets forth, as of the dates indicated, the number of our full-time employees serving in the functions indicated:

<b>Function</b>	<b>As of December 31,</b>			<b>As of</b>
	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>April 30,</b>
				<b>2004</b>
General operations	773	1,168	1,658	2,499
Quality control	100	130	244	374
Engineering	334	411	578	834
Research and development	125	146	157	180
Sales, administration and finance	80	100	137	185
Others	240	288	365	469
<b>Total</b>	<b>1,652</b>	<b>2,243</b>	<b>3,139</b>	<b>4,541</b>

The following table sets forth, as of the dates indicated, a breakdown of the number of our full-time employees by geographic location:

<u>Location of Facility</u>	<u>As of December 31,</u>			<u>As of</u>
	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>April 30,</u>
				<u>2004</u>
ThaiLin (Hsinchu Industrial Park)			346	357
ChipMOS Logic and Chantek (Chupei City)				975
Hsinchu Production Group	888	937	995	1,119
Southern Taiwan Production Group	764	1,103	1,526	1,725
Shanghai Production Group		203	268	360
Japan and the United States			4	5
<b>Total</b>	<b>1,652</b>	<b>2,243</b>	<b>3,139</b>	<b>4,541</b>

**Table of Contents**

Our employees are not covered by any collective bargaining agreements. We have not experienced any strikes or work stoppages by our employees and believe that our relationship with our employees is good.

**Share Option Plan**

We adopted a broad-based share option plan in 2001, which was amended at a special general meeting on March 19, 2004 to increase the number of shares available for issuance under the share option plan from 5,800,000 to 9,000,000. The share option plan provides that our directors, officers, employees, consultants and those of our affiliates may, at the discretion of our board of directors or a committee, be granted options to purchase our shares at an exercise price of no less than the par value of our common shares. The board or the committee will have complete discretion to determine which eligible individuals are to receive option grants, the number of shares subject to each grant, the exercise price of all options granted, the vesting schedule to be in effect for each option grant and the maximum term for which each granted option is to remain outstanding, up to a maximum term of ten years.

In 2002, we granted a total of 3,405,775 share options to our employees and during 2002, 273,500 share options were cancelled and 531,175 share options were exercised. In 2003, we granted a total of 3,464,600 share options to our employees, and during 2003, 334,600 share options were cancelled and 427,000 share options were exercised. The table below sets forth information about the share options we granted as of December 31, 2003.

<b>Date of grant</b>	<b>Exercise Price</b>	<b>Number outstanding as of December 31, 2003</b>
April 3, 2002	4.0375	2,005,850
June 13, 2003	0.7650	2,445,650
October 1, 2003	1.7425	813,000
November 3, 2003	1.7425	39,600
		5,304,100

Of the 2,005,850 options granted on April 3, 2002, 254,262 became exercisable on or after April 3, 2003, 583,862 became exercisable on or after April 3, 2004, and 583,863 will become exercisable on or after each of April 3, 2005 and 2006. Of the 2,445,650 options granted on June 13, 2003, 538,362 became exercisable on December 13, 2003, 635,762 will become exercisable on or after December 13, 2004, and 635,763 will become exercisable on or after each of December 13, 2005 and 2006. Of the 813,000 options granted on October 1, 2003, 203,250 will become exercisable on or after each of October 1, 2004, 2005, 2006 and 2007. Of the 39,600 options granted on November 3, 2003, 9,900 options will become exercisable on or after each of November 3, 2004, 2005, 2006 and 2007.

**Table of Contents****Item 7. Major Shareholders and Related Party Transactions****Major Shareholders**

The following table sets out certain information as of April 30, 2004 regarding the ownership of our common shares by (1) each person known to us to be the owner of more than five percent of our common shares and (2) the total amount owned by our directors and executive officers as a group.

<b>Identity of person or group</b>	<b>Number of shares owned</b>	<b>Percent Owned</b>
Mosel Vitelic Inc. <sup>(1)(2)</sup>	26,159,531	43.7%
PacMOS Technologies Holdings Limited <sup>(3)</sup>	4,007,284	6.7%
Directors and executive officers, as a group <sup>(4)</sup>	1,579,048	2.6%

- (1) Mosel owns 25,927,840 shares indirectly through its 100% owned subsidiary, Giant Haven Investments Ltd., and 231,691 indirectly through Mou-Fu Investment Ltd., which is a 99.9% owned subsidiary of Mosel's 99.9% owned subsidiary Dai-Gin Investment Ltd. Mosel is a public company listed on the Taiwan Stock Exchange whose largest known shareholder owned less than 4.3% of Mosel's outstanding shares as of December 31, 2003.
- (2) Excludes shares owned by PacMOS Technologies Holdings Limited, or PacMOS, that may be beneficially owned by Mosel.
- (3) PacMOS is a public company listed on the Stock Exchange of Hong Kong Limited and 43% owned by Texan Management Limited and 32% owned by Vision2000 Venture Ltd. Vision2000 Venture Ltd. is 100% owned by Mosel. As a result, each of Texan Management Limited, Vision2000 Venture Ltd. and Mosel may be considered to be the beneficial owner of our common shares owned by PacMOS. There are no voting or other arrangements among Texan Management Limited, Vision2000 Venture Ltd. and Mosel with respect to control of PacMOS.
- (4) Excludes Mosel's beneficial ownership of our common shares which may be considered to be beneficially held by some of our directors or officers. Includes shares held by certain family members of certain directors.

As of April 30, 2004, approximately 34.6% of our common shares were held of record by shareholders located in the United States. All holders of our common shares have the same voting rights with respect to their shares.

As of January 12, 2001, Mosel held 65.1% of our common shares through its 100% owned subsidiary, Giant Haven Investment Ltd., and through Mou-Fu Investment Ltd., which is a 99.9% owned subsidiary of Mosel's 99.9% owned subsidiary Dai-Gin Investment Ltd. On May 29, 2003, Mosel reduced its ownership in us from 64.5% to 44.4% through a sale of an aggregate of 11.8 million of our common shares to third party purchasers.

**Related Party Transactions****Certain Transactions in 2002**

ROC law limits the ability of a company incorporated in Taiwan to purchase any equity interest in companies, directly or indirectly, holding more than 50% of its issued and outstanding voting securities or registered capital or to provide loans or other financing to any company. These limitations apply to transactions between ChipMOS Taiwan and Mosel, or companies having a relationship with Mosel as discussed below, subject to the exceptions that exist under law. As discussed elsewhere in this annual report, in 2002 and continuing into 2003 Mosel experienced liquidity and other financial difficulties.

During 2002, ChipMOS Taiwan engaged in certain transactions with Mosel and companies having a relationship with Mosel in respect of which our previous auditors raised questions on December 6, 2002, as to the business purpose of these transactions, whether they constituted impermissible financings of Mosel and whether these transactions had been conducted in accordance with applicable ROC law and requested us to provide further information. During December 2002 and January 2003, we reviewed these transactions, as well as the then large cash deposits by ChipMOS Taiwan at NM Bank, an offshore bank located in Vanuatu, that were routed through the same bank account at an intermediary bank that had also been used as an intermediary account for the routing to Mosel of certain proceeds from third parties in connection with Mosel's issuance of new equity securities during that period and submitted our report to the audit committee. On January 9, 2003, our audit committee met and reviewed the facts and circumstances of these transactions, and after consulting with Lee and Li, our ROC counsel, concluded that these transactions were not inappropriate or impermissible under applicable laws and that all approvals of the Board of Directors required by applicable laws had been obtained. In January 2003, the previous auditors asked for additional information relating to these transactions, which we believe we provided to the best of our ability. If it were to be determined that any of these transactions constituted an impermissible financing or purchase of assets of Mosel by ChipMOS Taiwan or an impermissible purchase of Mosel's equity by ChipMOS Taiwan, then ChipMOS

## **Table of Contents**

Taiwan's then chairman and any responsible officers would be jointly and severally liable to ChipMOS Taiwan for any losses suffered by ChipMOS Taiwan and may also be severally liable criminally for any breach of fiduciary duties that resulted in losses and damages suffered by ChipMOS Taiwan. Moreover, certain of these transactions may not have been in full compliance with ChipMOS Taiwan's then applicable internal procedures. The failure to comply fully with ChipMOS Taiwan's then applicable internal procedures could constitute evidence of a failure by the then chairman of ChipMOS Taiwan and responsible officers to comply fully with their fiduciary duties, which could result in them being held criminally liable for any breach of fiduciary duties that resulted in losses and damages to ChipMOS Taiwan. However, since we believe that these transactions have not resulted in any losses and damages to ChipMOS Taiwan or ChipMOS Bermuda, we believe that the risk of liability for ChipMOS Taiwan's then chairman and officers is remote.

Please see Note 20 to the audited consolidated financial statements included in this annual report and **Other Related Party Transactions** below for further information on the transactions with Mosel and its affiliates.

On February 27, 2003, Tiaoho & Co., an independent member firm of Moore Stephens International Limited, was appointed as independent auditor of ChipMOS Taiwan and on March 7, 2003, based on the recommendation of our audit committee, we appointed Moore Stephens Hong Kong as our independent auditor. We understand that Moore Stephens Hong Kong obtained the usual professional clearance from the previous auditor. Moore Stephens Hong Kong was made aware of the above mentioned transactions, the discussions between us and our previous auditor and the conclusions of our audit committee and Lee and Li, our ROC counsel, upon their appointment, and we confirmed to Moore Stephens Hong Kong that we had determined that these transactions were not inappropriate or impermissible under applicable laws and that all approvals of the Board of Directors required by applicable laws had been obtained. Moore Stephens Hong Kong carried out audit procedures upon these transactions, reviewed the related correspondence, and made appropriate inquiries with the previous auditor, whom we authorized to respond fully to any such inquiries. Moore Stephens Hong Kong issued an unqualified audit opinion on our 2002 financial statements.

## **Other Related Party Transactions**

### *ChipMOS TECHNOLOGIES INC.*

As of April 30, 2004, we held 70.3% of the outstanding common shares of ChipMOS Taiwan and Siliconware Precision held 28.7%.

On December 17, 2003, ChipMOS Bermuda entered into a deed of assignment with ChipMOS Taiwan, as amended on May 14, 2004, pursuant to which ChipMOS Taiwan assigned to ChipMOS Bermuda ChipMOS Taiwan's right under the convertible note issued by Modern Mind with respect to US\$16,500,745 and accrued interest thereon for a purchase price of US\$16,594,249.93, which purchase price is to be paid to ChipMOS Taiwan by September 30, 2004. As a result of this assignment and an assignment by Jesper Limited dated June 25, 2003 to ChipMOS Bermuda of Jesper Limited's rights under the convertible note issued by Modern Mind with respect to US\$20,999,255 and accrued interest thereon, ChipMOS Bermuda obtained the entire rights under the US\$37.5 million convertible note issued by Modern Mind.

On April 7, 2004, ChipMOS Bermuda entered into an assignment agreement with ChipMOS Taiwan, as amended on May 14, 2004, pursuant to which ChipMOS Taiwan transferred all of the technologies it owned to ChipMOS Bermuda for a purchase price of US\$19.7 million, payable to ChipMOS Taiwan by September 30, 2004.



## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

On April 7, 2004, ChipMOS Bermuda entered into a patent license agreement with ChipMOS Taiwan, pursuant to which ChipMOS Bermuda grants to ChipMOS Taiwan a non-exclusive royalty-bearing license with respect to certain patents and patent applications until the expiration of the term of the last of these patents. Under the patent license agreement, ChipMOS Taiwan will pay ChipMOS Bermuda a royalty in the aggregate of US\$20 million, payable in 80 quarterly installments of US\$250,000 each, the first of which must be made on July 7, 2004.

### *Mosel Vitelic Inc.*

As of April 30, 2004, Mosel indirectly owned 43.7% of our outstanding shares. Mosel designs and manufactures semiconductor products, including SRAM, flash memory, LCD and other flat-panel display driver semiconductors and power-related semiconductors. In the period from July to December 2003, Mosel transferred all of its DRAM business to its affiliate ProMOS. Mosel is also engaged in the semiconductor testing and assembly business through its shareholding in our company and in the semiconductor module services business through its

## Table of Contents

11.3% direct shareholding in Chantek as of April 30, 2004. Although Mosel was our second largest customer in 2003, accounting for 19% of our net revenue in 2003, it ceased to be a key customer of ours following the transfer of its DRAM business to ProMOS. Sales to Mosel accounted for 48% and 35% of our net revenue in 2001 and 2002, respectively. Mosel and its affiliates currently have, and are expected to continue to have from time to time in the future, contractual and other business relationships with us. Our relationships include the following:

In April 2003, ChipMOS Taiwan purchased from third-party bondholders NT\$570 million worth of index bonds, and Mosel pledged approximately 52 million ProMOS common shares as collateral for repayment of NT\$290 million worth of these index bonds. On May 6, 2003, ChipMOS Taiwan sold NT\$110 million and NT\$90 million of the index bonds to AMCT and Chantek International Investment Ltd., a wholly-owned subsidiary of Chantek, respectively. On May 12, 2003, ChipMOS Taiwan sold NT\$80 million of the index bonds to PlusMOS. The interest revenue derived from these transactions amounted to NT\$6 million in 2003. On May 28, 2003, Mosel reached settlements with the holders of the index bonds, pursuant to which Mosel agreed to pay by June 2003 35% of the outstanding principal amount plus accrued interest, and the remaining 65% in 10 monthly installments. In June 2003, ChipMOS Taiwan sold all of the 52 million common shares of ProMOS for approximately NT\$426 million by exercising its rights to sell such shares pledged as collateral for the repayment of NT\$290 million worth of index bonds. On June 16, 2003, ChipMOS Taiwan retained approximately NT\$300 million in satisfaction of the index bonds we held, and returned the remaining amount to Mosel as excess collateral realization.

On August 26 and September 2 and 6, 2002, ChipMOS Taiwan entered into three inventory purchase agreements with Mosel under which Mosel was obligated to sell to ChipMOS Taiwan, and ChipMOS Taiwan was obligated to purchase, wafers from Mosel. Under these inventory purchase agreements, ChipMOS Taiwan paid Mosel a total amount of NT\$2,100 million in exchange for the wafers. The purchases of wafers from Mosel by ChipMOS Taiwan were subsequently cancelled and a total amount of NT\$2,100 million was refunded to ChipMOS Taiwan by Mosel and the inventory purchase agreements were terminated on September 26 and 30, 2002.

Rental revenue from Mosel was NT\$30 million, NT\$9 million and NT\$5 million in 2001, 2002 and 2003, respectively. The rental fees paid by us to Mosel amounted to NT\$2 million, NT\$3 million and NT\$3 million in 2001, 2002 and 2003, respectively.

In 2003, we purchased material from Mosel in an aggregate amount of NT\$12 thousand.

In 2001, 2002 and 2003, we paid NT\$5 million, NT\$5 million and NT\$4 million, respectively, annual administrative fees to Mosel for the provision of certain administrative services.

### *Siliconware Precision Industries Co., Ltd.*

As of April 30, 2004, Siliconware Precision owned 28.7% of the outstanding shares of ChipMOS Taiwan. Siliconware Precision is an independent provider of semiconductor testing and packaging services. Siliconware Precision currently has, and is expected to continue to have from time to time in the future, contractual and other business relationships with us. From time to time, Siliconware Precision provides assembly services to us. Often, Siliconware Precision renders these assembly services directly to our customers through customer referrals from us. On January 1, 2001, ChipMOS Taiwan entered into a subcontracting agreement for a term of two years with Siliconware Precision, pursuant to which Siliconware Precision is obligated to provide assembly services to us. This agreement was extended for another two years from January 2004 to December 2005. Every month, ChipMOS Taiwan is required to provide Siliconware Precision with a rolling forecast of requested services for the following three months. The prices of these services are to be agreed upon from time to time taking into account the cost of the packaging raw materials. In 2000 and 2001, we outsourced to Siliconware Precision total sales of NT\$214 million and NT\$5 million, representing 2% and 0.1%, respectively, of our net revenue. In 2002, we did not outsource any assembly services to Siliconware Precision. In 2003, we outsourced to Siliconware Precision total sales of NT\$114 million, representing 1% of our net revenue.

### *Ultima Electronics Corp.*

As of April 30, 2004, ChipMOS Taiwan owned 11,195,952, or 3.7%, of the shares of Ultima. We provide mostly vertically integrated services and some independent testing and assembly services to Ultima. Sales to Ultima accounted for 22% of our net revenue in 2001, 19% in 2002 and 12% in 2003. In 2002 and 2003, ChipMOS Taiwan acted as a guarantor and provided collateral for a loan in the amount of NT\$600 million extended to Ultima by two Taiwan financial institutions but as of December 31, 2003, we no longer acted as a guarantor for Ultima.

-70-

## Table of Contents

On December 22, 2003, ChipMOS Taiwan entered into a share purchase agreement with Caspian Worldwide Holdings Limited (BVI), or Caspian, a wholly-owned subsidiary of Ultima, for the acquisition of 30.0% of the shares of Ultima Technology Corp. (BVI), a wholly-owned subsidiary of Caspian, for a purchase price of approximately US\$11 million. In order to secure its performance of this transaction, ChipMOS Taiwan provided Caspian with a performance bond in the amount of NT\$290 million, which was returned to ChipMOS Taiwan on May 6, 2004. The investment was approved by the Investment Commission on April 19, 2004.

### *DenMOS Technology Inc.*

We do not own any equity interest in DenMOS. As of April 30, 2004, Mosel directly owned 50.6% of common shares of DenMOS. Sales to DenMOS were NT\$153 million and NT\$496 million in 2002 and 2003, respectively. We provided storage services to DenMOS in 2002 and 2003. Rental revenue from DenMOS for these storage services was NT\$693 thousand and NT\$922 thousand in 2002 and 2003, respectively. We did not generate any rental revenue from DenMOS in 2001.

On October 15, 2003, we entered into a long-term agreement with DenMOS, under which we reserve a specified amount of capacity for LCD and other flat-panel display driver semiconductor testing and assembly services to DenMOS and under which DenMOS guarantees to place orders in the amount of the reserved capacity for a period of 48 months. This agreement supersedes a similar agreement that we entered into on May 25, 2002. The price for our services under this agreement will be agreed upon, based on our general price list, at the time DenMOS places orders under this agreement. If we are unable to test and assemble the agreed number of LCD and other flat-panel display driver semiconductors, DenMOS may use a third party to cover the shortfall. However, we are entitled to cure any shortfall in the following month. If we fail to do so, we may be liable for damages up to the amount equal to the number of shortfall units in the given month multiplied by the average sales price per unit in that month. If DenMOS fails to place orders according to the reserved capacity, we are entitled to damages based on our costs for the equipment, tooling costs, costs for personnel dedicated to the provisions of capacity to such customer, and the costs for raw materials.

### *SyncMOS Technologies Inc.*

We do not own any equity interest in SyncMOS. As of April 30, 2004, Mosel indirectly owned 41.5% of SyncMOS Technologies Inc. We provided storage services to SyncMOS Technologies Inc. in 2001. Rental revenue from SyncMOS Technologies Inc. was NT\$405 thousand, NT\$768 thousand and NT\$768 thousand in 2001, 2002, and 2003, respectively.

### *PlusMOS Technologies, Inc.*

As of March 31, 2004, PlusMOS was 35.1% directly owned by Mosel and 25.0% owned by ChipMOS Taiwan. On April 1, 2004, PlusMOS was merged into Chantek with Chantek as the surviving entity.

We provided testing and assembly services, and we also purchased raw materials on PlusMOS behalf in connection with the testing and assembly services in 2001. The total sales to PlusMOS comprised 1% of our revenue in 2001, 0.1% in 2002, and 0.2% in 2003. In 2003, we purchased from PlusMOS certain materials in an amount of NT\$522 thousand. In 2001, we purchased certain research and development materials from PlusMOS in an amount of NT\$30 million.

*Best Home Corp. Ltd.*

In 2002, ChipMOS Taiwan acquired a 16.7% ownership interest of Sun Fund Securities Ltd. from Best Home. As of April 30, 2004, ChipMOS Taiwan had a 19.9% ownership interest in Best Home. Best Home is engaged in the business of selling office supplies and providing cafeteria services. On October 11, 2002, ChipMOS Taiwan entered into a cafeteria construction and cooperation agreement with Best Home, under which Best Home is obligated to construct a cafeteria and provide cafeteria services for ChipMOS Taiwan and ChipMOS Taiwan is obligated to prepay Best Home an aggregate of NT\$216 million. On December 17, 2003, ChipMOS Taiwan entered into a credit assignment agreement with Prudent Holdings Group Ltd., or Prudent, a 4% shareholder of ours, under which ChipMOS Taiwan assigned its right to the repayment of NT\$216 million from Best Home under the cafeteria construction and cooperation agreement for Prudent and Prudent agreed to pay NT\$216 million back to ChipMOS Taiwan by June 30, 2004. Prudent also entered into a pledge agreement on the same day to pledge its interest in

## Table of Contents

2,360,000 of ChipMOS Bermuda common shares to ChipMOS Taiwan to secure its payment and performance under the credit assignment agreement. The market value of these shares amounted to approximately NT\$753 million as of December 31, 2003 (at the exchange rate of NT\$33.99 to US\$1.00) and approximately NT\$666 million as of June 10, 2004 (at the exchange rate of NT\$33.51 to US\$1.00). In the opinion of Lee and Li, our ROC counsel, the provision of the pledge on our common shares, and any foreclosure of our common shares by ChipMOS Taiwan does not violate applicable ROC laws related to acquisition of shares of a parent company by a subsidiary. We understand, however, that no court in Taiwan has ruled on this issue and there may be some doubt as to how a court would ultimately rule when presented with the situation. To the extent that Prudent is unable to pay NT\$216 million to ChipMOS Taiwan and ChipMOS Taiwan may legally foreclose on our common shares, ChipMOS Taiwan's ability to resell our common shares will be subject to various limitations, including under U.S. securities laws, which may delay or prevent ChipMOS Taiwan's ability to realize cash from such shares. We also are in discussions with Prudent regarding Prudent's construction of a cafeteria and dormitory and provision of cafeteria services for ChipMOS Taiwan. ChipMOS Taiwan may use the NT\$216 million to fund Prudent's activities if ChipMOS Taiwan enters into an agreement with Prudent.

### *Modern Mind Technology Limited*

Modern Mind is one of our controlled consolidated subsidiaries. We owned 100% of Modern Mind from December 12, 2002 to December 31, 2002. On December 31, 2002, we transferred our ownership interest in Modern Mind to Jesper Limited. In addition, as of December 31, 2003, Modern Mind owed ChipMOS Bermuda an aggregate of US\$37.5 million plus accrued interest of US\$0.2 million. ChipMOS Bermuda may convert the amount of debt owned by Modern Mind into a controlling equity interest in Modern Mind at a conversion rate of one ordinary share of Modern Mind for every US\$1.00 if the repayment is not made when due.

### *ChipMOS TECHNOLOGIES (Shanghai) LTD.*

ChipMOS Shanghai is a wholly-owned subsidiary of Modern Mind, which is one of our controlled consolidated subsidiaries. Under a technology transfer agreement dated August 1, 2002, we licensed certain technologies and systems, and agreed to provide certain technical support and consulting services to ChipMOS Shanghai relating to those technologies and systems, and ChipMOS Shanghai paid an aggregate of US\$25 million to us in 2002 for the technology and services we provide under this agreement.

On April 22, 2004, ChipMOS Far East Limited, or ChipMOS Far East, and ChipMOS Shanghai entered into an exclusive services agreement, pursuant to which ChipMOS Shanghai will provide its services exclusively to ChipMOS Far East or customers designated by ChipMOS Far East. Under the exclusive services agreement, ChipMOS Far East will purchase and consign to ChipMOS Shanghai all of the equipment required to render those services. The exclusive services agreement has a term of ten years and will automatically be renewed for periods of ten years, unless terminated by either party at least 30 days prior to the expiration of such ten year term. In addition, ChipMOS Far East may terminate the exclusive services agreement at any time by giving 30 days' prior notice.

### *CHANTEK ELECTRONIC CO., LTD.*

As of March 31, 2004, ChipMOS Taiwan owned 34.0% of Chantek and PlusMOS owned 12.0% of Chantek. Upon consummation of the merger of PlusMOS with Chantek, with Chantek as the surviving entity, on April 1, 2004, ChipMOS Taiwan owned 34.2% and Mosel directly and indirectly owned 16.1% of Chantek (excluding its ownership in Chantek held through ChipMOS Taiwan). Chantek leased equipment and provided raw material and semiconductor processing services to ChipMOS Taiwan pursuant to certain agreements between Chantek and ChipMOS Taiwan. Under these agreements, we paid an aggregate of approximately NT\$3 million and NT\$0.2 million to Chantek in 2002 and 2003, respectively. In addition, we paid an aggregate of NT\$8 million in rental fees to Chantek in 2003.

In 2003, ChipMOS Taiwan also purchased equipment from Chantek at a cost of NT\$10 million and sold equipment to Chantek for NT\$17 million. In addition, ChipMOS Taiwan recognized gains on the disposal of certain properties to Chantek in the amount of NT\$9 million.

*ThaiLin Semiconductor Corp.*

As of April 30, 2004, ChipMOS Taiwan owned 35.2% of ThaiLin. ChipMOS Taiwan leased equipment and transferred certain technology to ThaiLin pursuant to certain agreements between ThaiLin and ChipMOS Taiwan. The rents paid by ThaiLin to us amounted to an aggregate of approximately NT\$2 million and NT\$8 million in 2002 and 2003, respectively.

**Table of Contents**

In 2003, ThaiLin purchased certain equipment from ChipMOS Taiwan for approximately NT\$245 million, and sold certain equipment to ChipMOS Taiwan for approximately NT\$105 million.

*ProMOS Technologies Inc.*

We do not own any equity interest in ProMOS. As of April 30, 2004, Mosel directly and indirectly owned 18.0% of ProMOS. Following the transfer of Mosel's DRAM business to ProMOS in 2003, sales to ProMOS accounted for 19% of our net revenue in 2003 and 33% of our net revenue in the first quarter of 2004.

On July 1, 2003, ChipMOS Taiwan entered into a long-term agreement with ProMOS, under which ChipMOS Taiwan reserves a specified amount of capacity for DRAM testing and assembly services to ProMOS and under which ProMOS guarantees to place orders in the amount of the reserved capacity through the end of 2006. The price for the services of ChipMOS Taiwan under this agreement will be agreed upon quarterly, based on the then fair market price. If ChipMOS Taiwan is unable to test and assemble the agreed number of DRAM, ProMOS may use a third party to cover the shortfall and ChipMOS Taiwan may be liable for any operation loss of ProMOS caused by such delay or any additional costs in using a third party to cover the shortfall. If ProMOS fails to place orders in the amount of the reserved capacity, ChipMOS Taiwan is entitled to damages calculated based on the difference between the value of the reserved capacity and the value of the actual used capacity; provided that the value of the capacity by ChipMOS Taiwan that has been used for other customers shall be deducted.

*Advanced Micro Chip Technology Co., Ltd.*

As of April 30, 2004, ChipMOS Taiwan held a 99.7% equity interest in AMCT. ChipMOS Taiwan completed the integration of all of AMCT's business operations into ChipMOS Taiwan in April 2004 and expects to liquidate AMCT in August 2004.

In 2003, we purchased from AMCT certain materials in an amount of NT\$5 million.

*Sun-Fund Securities Ltd.*

As of April 30, 2004, ChipMOS Taiwan held a 16.7% equity interest in Sun-Fund. In 2003, we paid Sun-Fund NT\$3 million for acting as a transfer agent.



**Table of Contents**

**Item 8. Financial Information**

**Consolidated Financial Statements and Other Financial Information**

Please see Item 18. Financial Statements and pages F-1 through F-59.

**Legal Proceedings**

We are not involved in any material legal proceedings whose outcome we believe could have a material adverse effect on our business, other than a tax dispute in the amount of NT\$33 million relating to our income tax for the fiscal years of 1999 and 2000. We submitted our objections to this assessment to the relevant tax authority in December 2003 and March 2004 and are awaiting the resolution of this issue.

**Dividend Policy**

To date, we have not distributed any dividends. We currently intend to retain future earnings, if any, to finance the expansion of our business and thus do not expect to pay any cash dividends for the foreseeable future. In addition, we have no current plans to pay stock dividends. ChipMOS Taiwan, our 70.3% subsidiary, and its subsidiaries and affiliates may continue to issue stock dividends in accordance with local practice in Taiwan.

**Item 9. The Offer and Listing**

**Listing**

Nasdaq National Market is the principal trading market for our common shares, which are not listed or quoted on any other markets in or outside the United States. We have been quoted on the Nasdaq National Market under the symbol IMOS since June 19, 2001. The CUSIP number for our common shares is G2110R106. As of April 30, 2004, there were 59,860,235 common shares issued and outstanding. The table below sets forth, for the periods indicated, the high, low and average closing prices on the Nasdaq National Market for our common shares.

	Nasdaq <sup>(1)</sup> Price per share (US\$)		
	Average	High	Low
2001 (from June 19 through December 31)	2.31	5.06	1.40

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

2002	3.23	5.25	1.48
First Quarter	3.34	5.25	1.65
Second Quarter	4.02	5.06	2.55
Third Quarter	3.52	4.56	1.61
Fourth Quarter	2.03	2.88	1.48
2003	3.19	9.39	0.85
First Quarter	1.80	2.36	1.31
Second Quarter	1.19	1.55	0.85
Third Quarter	2.15	3.00	1.28
Fourth Quarter	5.86	9.39	2.05
December	7.74	9.39	6.64
2004 (through June 15, 2004)	10.59	15.00	7.80
First Quarter	11.77	15.00	8.98
January	13.12	15.00	8.98
February	12.13	13.75	10.02
March	10.29	11.27	9.06
Second Quarter (through June 15, 2004)	9.15	12.11	7.80
April	10.23	12.11	7.80
May	8.19	9.00	7.87
June (through June 15, 2004)	8.53	9.16	8.11

(1) Trading in our common shares commenced on June 19, 2001 on the Nasdaq National Market.

## **Table of Contents**

### **Item 10. Additional Information**

#### **Description of Share Capital**

Our authorized share capital consists of 150 million common shares, par value US\$0.01 per share.

#### **Common Shares**

Each shareholder is entitled to one vote for each common share held on all matters submitted to a vote of shareholders. Cumulative voting for the election of directors is not provided for in our bye-laws, which means that the holders of a majority of the shares voted can elect all of the directors then standing for election. The common shares are not entitled to preemptive rights and are not subject to conversion or redemption. Upon the occurrence of a liquidation, dissolution or winding-up, the holders of common shares would be entitled to share ratably in the distribution of all of our assets remaining available for distribution after satisfaction of all liabilities.

#### **Bermuda Law**

We are an exempted company organized under the Companies Act 1981 of Bermuda. The rights of our shareholders are governed by Bermuda law and our memorandum of association and bye-laws. The Companies Act 1981 of Bermuda differs in some material respects from laws generally applicable to United States corporations and their shareholders.

#### **Dividends**

Under Bermuda law, a company may pay dividends that are declared from time to time by its board of directors unless there are reasonable grounds for believing that the company is or would be, after the payment, unable to pay its liabilities as they become due or that the realizable value of its assets would thereby be less than the aggregate of its liabilities, issued share capital and share premium accounts. The holders of common shares are entitled to receive dividends out of assets legally available for such purposes at times and in amounts as our board of directors may from time to time determine. Any dividend unclaimed for a period of six years from its date of declaration will be forfeited and will revert to the Company.

#### **Voting Rights**

Under Bermuda law, except as otherwise provided in the Companies Act 1981 of Bermuda or our bye-laws, questions brought before a general meeting of shareholders are decided by a majority vote of shareholders present at the meeting. Our bye-laws provide that, subject to the provisions of the Companies Act 1981 of Bermuda, and except for extraordinary resolutions, any question properly proposed for the consideration of the shareholders will be decided by a simple majority of the votes cast, either on a show of hands or on a poll, with each

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

shareholder present (and each person holding proxies for any shareholder) entitled to one vote on a show of hands, or on a poll, one vote for each fully paid-up common share held by the shareholder. In the case of an equality of votes cast, the chairman of the meeting shall have a second or casting vote. Any resolution for any of the following extraordinary transactions will require the approval of shareholders holding at least 70.0% of the total voting rights of all the shareholders having the right to vote at such meeting:

a resolution for the merger, amalgamation or other consolidation of us into any other company;

a resolution for the sale, lease, exchange, transfer or other disposition of all or substantially all of our consolidated assets; or

a resolution for the adoption of any plan or proposal for the liquidation of the Company.

### **Rights in Liquidation**

Under Bermuda law, in the event of liquidation or winding-up of a company, after satisfaction in full of all claims of creditors and subject to the preferential rights accorded to any series of preferred shares, the proceeds of the liquidation or winding-up are distributed pro rata in specie or in kind among the holders of our common shares.

## **Table of Contents**

### **Meetings of Shareholders**

Under Bermuda law, a company is required to convene at least one general shareholders' meeting each calendar year. Bermuda law provides that a special general meeting may be called by the board of directors and must be called upon the request of shareholders holding not less than 10% of the paid-up capital of the company carrying the right to vote. Bermuda law also requires that shareholders be given at least five days' advance notice of a general meeting but the accidental omission to give notice to any person does not invalidate the proceedings at a meeting. Under our bye-laws, we must give each shareholder written notice at least five days prior to the annual general meeting, unless otherwise agreed by all shareholders having the right to vote at that annual general meeting, and written notice at least five days prior to any special general meeting, unless otherwise agreed by a majority of shareholders having a right to vote at that special general meeting, and together holding at least 95% of the paid-up capital of the company carrying the right to vote at that meeting.

Under Bermuda law, the number of shareholders constituting a quorum at any general meeting of shareholders is determined by the bye-laws of the company. Our bye-laws provide that at least two shareholders present in person or by proxy and holding shares representing at least 50% of the total voting rights of all shareholders having the right to vote at the meeting constitute a quorum. Our bye-laws further provide that, in respect of a general meeting adjourned for lack of quorum, at least two shareholders present in person or by proxy holding shares representing 33 1/3% of the total voting rights of all shareholders having the right to vote at the meeting constitute a quorum.

### **Access to Books and Records and Dissemination of Information**

Members of the general public have the right to inspect the public documents of a company available at the office of the Registrar of Companies in Bermuda. These documents include a company's certificate of incorporation, its memorandum of association (including its objects and powers) and any alteration to its memorandum of association. The shareholders have the additional right to inspect the bye-laws of the company, minutes of general meetings and the company's audited financial statements, which, unless agreed by all shareholders and directors, must be laid before the annual general meeting. The register of shareholders of a company is also open to inspection by shareholders without charge and by members of the general public on the payment of a fee. A company is required to maintain its share register in Bermuda but may, subject to the provisions of Bermuda law, establish a branch register outside Bermuda. We maintain a share register in Hamilton, Bermuda and a branch register in New Jersey, USA. A company is required to keep at its registered office a register of its directors and officers which is open for inspection for not less than two hours each day by members of the public without charge. Bermuda law does not, however, provide a general right for shareholders to inspect or obtain copies of any other corporate records.

### **Election or Removal of Directors**

Under Bermuda law and our bye-laws, directors are elected or appointed at an annual general meeting and serve until re-elected or re-appointed or until their successors are elected or appointed, unless they are earlier removed for cause or resign or otherwise cease to be directors under Bermuda law or our bye-laws.

A director may be removed for cause at a special general meeting of shareholders specifically called for that purpose, provided that the director is served with at least 14 days' notice. The director has a right to be heard at that meeting. Any vacancy created by the removal of a director at a special general meeting may be filled at that meeting by the election of another director in his or her place or, in the absence of any election by the shareholders, by the board of directors.

**Board Actions**

Our bye-laws provide that the quorum necessary for the transaction of business is two directors of the Board, and that questions arising at a properly convened meeting of the Board of Directors must be approved by a majority of the votes present and entitled to be cast. In the case of an equality of votes, the chairman of the meeting is entitled to a second or casting vote.

The Board of Directors may appoint any of our directors to act as our managing director or other senior executive, on such terms and conditions as it may determine, including with respect to remuneration.

## **Table of Contents**

### **Amendment of Memorandum of Association and Bye-laws**

Bermuda law provides that the memorandum of association of a company may be amended by a resolution passed at a general meeting of shareholders of which due notice has been given. Our bye-laws, other than the bye-laws separating our board of directors into three classes, may be amended by the Board of Directors if the amendment is approved by a majority of votes cast by our directors and by our shareholders by a resolution passed by a majority of votes cast at a general meeting. Any amendment to our bye-laws separating a board of directors into three classes must be approved by our board of directors and by shareholders of shares representing at least 60% of our outstanding shares.

Under Bermuda law, the holders of an aggregate of no less than 20% in par value of a company's issued share capital or any class of issued share capital have the right to apply to the Bermuda Court for an annulment of any amendment of the memorandum of association adopted by shareholders at any general meeting, other than an amendment that alters or reduces a company's share capital as provided in the Companies Act 1981 of Bermuda. Where an application is made, the amendment becomes effective only to the extent that it is confirmed by the Bermuda Court. An application for the annulment of an amendment of the memorandum of association must be made within 21 days after the date on which the resolution altering the company's memorandum of association is passed and may be made on behalf of the person entitled to make the application by one or more of their number as they may appoint in writing for the purpose. No application may be made by persons voting in favor of the amendment.

### **Appraisal Rights and Shareholder Suits**

Under Bermuda law, in the event of an amalgamation of two Bermuda companies, a shareholder who is not satisfied that fair value has been paid for his or her shares may apply to the Bermuda Court to appraise the fair value of his or her shares. The amalgamation of a company with another company requires the amalgamation agreement to be approved by the board of directors and, except where the amalgamation is between a holding company and one or more of its wholly-owned subsidiaries or between two or more wholly-owned subsidiaries, by meetings of the holders of shares of each company and of each class of such shares. Under Bermuda law, an amalgamation also requires the consent of the Bermuda Minister of Finance, who may grant or withhold his consent at his discretion.

Class actions and derivative actions are generally not available to shareholders under Bermuda law. The Bermuda Court, however, would ordinarily be expected to permit a shareholder to commence an action in the name of a company to remedy a wrong done to the company where the act complained of is alleged to be beyond the corporate power of the company or is illegal or would result in the violation of the company's memorandum of association or bye-laws. Further consideration would be given by the Bermuda Court to acts that are alleged to constitute a fraud against the minority shareholders or, for instance, where an act requires the approval of a greater percentage of the company's shareholders than that which actually approved it.

When the affairs of a company are being conducted in a manner oppressive or prejudicial to the interests of some part of the shareholders, one or more shareholders may apply to the Bermuda Court for an order regulating the company's conduct of affairs in the future or compelling the purchase of the shares by any shareholder, by other shareholders or by the company.

### **Certain Foreign Issuer Considerations**

The following discussion is based on the advice of Appleby Spurling Hunter, our Bermuda counsel.

The Bermuda Monetary Authority, or BMA, has designated us as non-resident for exchange control purposes. The BMA has also granted its consent under the Exchange Control Act 1972 and regulations promulgated thereunder for the issue or transfer to non-residents of Bermuda for exchange control purposes of our common shares, subject to the common shares remaining quoted on the Nasdaq National Market.

*Share Issuance and Transfers by Non-Bermuda and Bermuda Residents*

Under Bermuda law, there are no limitations on the rights of non-Bermuda residents to hold or vote their shares of Bermuda companies. Because we have been designated as a non-resident for Bermuda exchange control purposes, there are no restrictions on our ability to transfer funds in and out of Bermuda or to pay dividends to United States residents who are holders of our common shares other than in respect of local Bermuda currency.



## **Table of Contents**

Under Bermuda law, we are an exempted company. An exempted company is exempt from the provisions of Bermuda law, which stipulate that at least 60% of the equity must be beneficially owned by Bermuda persons. Persons regarded as residents of Bermuda for exchange control purposes require specific consent under the Exchange Control Act 1972 to acquire securities issued by us. The Exchange Control Act 1972 permits companies to adopt bye-law provisions relating to the transfer of securities. None of Bermuda law, our memorandum of association or our bye-laws impose limitations on the right of foreign nationals or non-residents of Bermuda to hold our shares or vote such shares.

As an exempted company, we may not participate in certain business transactions, including: <sup>(1)</sup> the acquisition or holding of land in Bermuda (except that required for our business and held by way of lease or tenancy for terms of not more than 21 years) without the express authorization of the Bermuda legislature; (2) the taking of mortgages on land in Bermuda to secure an amount in excess of US\$50,000 without the consent of the Bermuda Minister of Finance; or (3) the carrying on of business of any kind in Bermuda, except in furtherance of our business carried on outside Bermuda or under a license granted by the Bermuda Minister of Finance. In addition, present BMA policy permits no more than 20% of the share capital of an exempted company to be held by Bermuda persons.

The Bermuda government actively encourages foreign investment in exempted entities like us that are based in Bermuda but do not operate in competition with local business. In addition to having no restrictions on the degree of foreign ownership, we are subject neither to taxes on our income or dividends nor to any foreign exchange controls in Bermuda. In addition, there is no capital gains tax in Bermuda, and profits can be accumulated by us without limitation.

### *Director s Interests*

Under the Bermuda Companies Act 1981, a director of a company may, notwithstanding his office, be a party to or otherwise interested in any transaction or arrangement with the company or in which the company is otherwise interested. He or she may also be a director or officer of, or employed by, or a party to any transaction or arrangement with, or otherwise interested in, any corporate body promoted by the same company or an interested company. Therefore, where it is necessary, so long as a director of a Bermuda company declares the nature of his or her interest at the first opportunity at a meeting of the board or by writing to the directors as required by the Bermuda Companies Act 1981, that director shall not by reason of his or her office be accountable to a company for any benefit he or she derives from any office or employment to which the bye-laws of the company allow him or her to be appointed or from any transaction or arrangement in which the bye-laws of such company allow him or her to be interested, and no such transaction or arrangement shall be liable to be avoided on the ground of any such interest or benefit. A general notice to the directors by a director or officer declaring that he or she is a director or officer or has an interest in a person and is to be regarded as interested in any transaction or arrangement made with that person shall be sufficient declaration of interest in relation to any transaction or arrangement so made.

### **Share Issuance and Transfer**

We have been designated as a non-resident for exchange control purposes by the BMA, whose permission for the issuance and transfer of common shares has been obtained subject to the common shares being quoted on the Nasdaq National Market.

The transfer of common shares between persons regarded as non-resident in Bermuda for exchange control purposes and the issuance of shares after the completion of the currently contemplated offering of our common shares to those persons may be effected without specific consent under the Exchange Control Act 1972 of Bermuda and regulations thereunder subject to the common shares remaining quoted on the Nasdaq National Market. Issuance and transfer of shares to any person regarded as resident in Bermuda for exchange control purposes require specific prior approval under the Exchange Control Act 1972.

There are no limitations on the rights of persons regarded as non-residents of Bermuda for foreign exchange control purposes who own common shares to hold or vote their common shares. Since we have been designated as a non-resident for Bermuda exchange control purposes, there are no restrictions on our ability to transfer funds in and out of Bermuda or to pay dividends to United States residents or other non-residents of Bermuda who are holders of common shares, other than in respect of local Bermuda currency. Furthermore, it is not our intent to maintain Bermuda dollar deposits and, accordingly, will not pay dividends on the common shares in Bermuda currency.

## **Table of Contents**

Bermuda law requires that share certificates be issued only in the names of corporations or individuals. Where an applicant for common shares acts in a special capacity, such as an executor or trustee, certificates may, at the request of that applicant, record the capacity in which the applicant is acting. Our recording of any special capacity, however, shall not be construed as obliging us either to investigate, or to incur any responsibility or liability in respect of, the proper administration of any trust or estate. Regardless of whether or not we have had notice of a trust, no notice shall be taken of any trust, equitable, contingent, future or partial interest in any share or any interest in any fractional part of a share or any other right in respect of any common shares.

## **Transfer Agent and Registrar**

Reid Management Limited serves as our principal registrar and transfer agent in Bermuda for the common shares. Mellon Investor Services, L.L.C. serves as our United States transfer agent and registrar for the common shares.

## **Material Contracts**

We have entered into the following contracts within the two years preceding the date of this annual report that are or may be material:

Deed of assignment, dated December 17, 2003, between ChipMOS Taiwan and ChipMOS Bermuda, as amended on May 14, 2004, pursuant to which ChipMOS Taiwan assigned to ChipMOS Bermuda ChipMOS Taiwan's right under the convertible note issued by Modern Mind with respect to US\$16,500,745 and accrued interest thereon for a purchase price of US\$16,594,249.93, payable to ChipMOS Taiwan by September 30, 2004. See Item 7. Major Shareholders and Related Party Transactions Other Related Party Transactions ChipMOS TECHNOLOGIES INC. for further details.

Assignment agreement, dated April 7, 2004, between ChipMOS Bermuda and ChipMOS Taiwan, as amended on May 14, 2004, pursuant to which ChipMOS Taiwan transferred all of the technologies it owned to ChipMOS Bermuda for a purchase price of US\$19.7 million, payable to ChipMOS Taiwan by September 30, 2004. See Item 7. Major Shareholders and Related Party Transactions Other Related Party Transactions ChipMOS TECHNOLOGIES INC. for further details.

Patent license agreement, dated April 7, 2004, between ChipMOS Bermuda and ChipMOS Taiwan, pursuant to which ChipMOS Bermuda grants to ChipMOS Taiwan a non-exclusive royalty-bearing license with respect to certain patents and patent applications until the expiration of the term of the last of these patents. Under the patent license agreement, ChipMOS Taiwan will pay ChipMOS Bermuda a royalty in the aggregate of US\$20 million, payable in 80 quarterly installments of US\$250,000 each, the first of which must be made on July 7, 2004. See Item 7. Major Shareholders and Related Party Transactions Other Related Party Transactions ChipMOS TECHNOLOGIES INC. for further details.

Please see also Item 7. Major Shareholders and Related Party Transactions for summaries of contracts with certain of our related parties.

## **Bermuda Taxation**

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

This summary is based on laws, regulations, treaty provisions and interpretations now in effect and available as of the date of this annual report. The laws, regulations, treaty provisions and interpretations, however, may change at any time, and any change could be retroactive to the date of issuance of our common shares. These laws, regulations and treaty provisions are also subject to various interpretations, and the relevant tax authorities or the courts could later disagree with the explanations or conclusions set out below.

At the date hereof, there is no Bermuda income, corporation or profits tax, withholding tax, capital gains tax, capital transfer tax, estate duty or inheritance tax payable by us or our shareholders other than shareholders ordinarily resident in Bermuda. We are not subject to stamp or other similar duty on the issuance, transfer or redemption of our common shares.

## **Table of Contents**

We have obtained an assurance from the Minister of Finance of Bermuda under the Exempted Undertaking Tax Protection Act 1966 that, in the event there is enacted in Bermuda any legislation imposing tax computed on profits or income or computed on any capital assets, gain or appreciation or any tax in the nature of estate duty or inheritance tax, such tax shall not be applicable to us or to our operations, or to the common shares, debentures or our other obligations until March 28, 2016, except insofar as such tax applies to persons ordinarily resident in Bermuda and holding such common shares, debentures or our other obligations or any real property or leasehold interests in Bermuda owned by us. No reciprocal income tax treaty affecting us exists between Bermuda and the United States.

As an exempted company, we are liable to pay in Bermuda an annual registration fee calculated on a sliding scale basis by reference to our assessable capital, which is the aggregate of our authorized common share capital and the premium on our issued common shares currently at a rate not exceeding US\$27,825 per annum.

## **United States Federal Income Taxation**

### ***In General***

This section describes the material United States federal income tax consequences of owning your common shares. It applies to you only if you hold your common shares as capital assets for tax purposes. This section does not apply to you if you are a member of a special class of holders subject to special rules, including:

a dealer in securities;

a trader in securities that elects to use a mark-to-market method of accounting for securities holdings;

a tax-exempt organization;

a life insurance company;

a person liable for alternative minimum tax;

a person that actually or constructively owns 10% or more of our voting stock;

a person that holds common shares as part of a straddle or a hedging or conversion transaction; or

a U.S. holder (as defined below) whose functional currency is not the US dollar.

This section is based on the Internal Revenue Code of 1986, as amended, its legislative history, existing and proposed regulations, published rulings and court decisions all as currently in effect. These laws are subject to change, possibly on a retroactive basis. There is currently no comprehensive income tax treaty between the United States and Bermuda.

You are a U.S. holder if you are a beneficial owner of common shares and you are:

a citizen or resident of the United States;

a domestic corporation;

an estate whose income is subject to United States federal income tax regardless of its source; or

a trust if a United States court can exercise primary supervision over the trust's administration and one or more United States persons are authorized to control all substantial decisions of the trust.

*You should consult your own tax advisor regarding the United States federal, state and local and the Bermuda and other tax consequences of owning and disposing of common shares in your particular circumstances.*

This discussion addresses only United States federal income taxation.

#### ***Taxation of Dividends***

Under the United States federal income tax laws, and subject to the passive foreign investment company, or PFIC, rules discussed below, if you are a U.S. holder, the gross amount of any dividend we pay out of our current or accumulated earnings and profits (as determined for United States federal income tax purposes) is subject to United States federal income taxation. If you are a noncorporate U.S. holder, dividends paid to you in taxable years beginning before January 1, 2009 that constitute qualified dividend income will be taxable to you at a maximum tax

## **Table of Contents**

rate of 15% provided that you hold the common shares for more than 60 days during the 120-day period beginning 60 days before the ex-dividend date and meet other holding period requirements. The IRS has announced that it will permit taxpayers to apply a proposed legislative change to the holding period requirement described in the preceding sentence as if such change were already effective. This legislative technical correction would change the minimum required holding period, retroactive to January 1, 2003, to more than 60 days during the 121-day period beginning 60 days before the ex-dividend date. Dividends we pay with respect to the common shares generally will be qualified dividend income provided that, in the year that you receive the dividend, the common shares are readily tradable on an established securities market in the United States. We believe that our shares, which are listed on the NASDAQ, are readily tradable on an established securities market in the United States, however there can be no assurance that our shares will continue to be readily tradable on an established securities market.

The dividend is taxable to you when you receive the dividend, actually or constructively. The dividend will not be eligible for the dividends-received deduction generally allowed to United States corporations in respect of dividends received from other United States corporations. Distributions in excess of current and accumulated earnings and profits, as determined for United States federal income tax purposes, will be treated as a non-taxable return of capital to the extent of your basis in the common shares and thereafter as capital gain.

Dividends will be from sources outside the United States, but generally will be passive income or financial services income which is treated separately from other types of income for purposes of computing the foreign tax credit allowable to you. You should consult your own tax advisor regarding the foreign tax credit rules.

## ***Taxation of Capital Gains***

Subject to the PFIC rules discussed below, if you are a U.S. holder and you sell or otherwise dispose of your common shares, you will recognize capital gain or loss for United States federal income tax purposes equal to the difference between the US dollar value of the amount that you realize and your tax basis, determined in US dollars, in your common shares. Capital gain of a noncorporate U.S. holder that is recognized before January 1, 2009 is generally taxed at a maximum rate of 15% where the holder has a holding period greater than one year. The deductibility of capital losses is subject to limitations. The gain or loss will generally be income or loss from sources within the United States for foreign tax credit limitation purposes.

*PFIC Rules.* We believe that our common shares should not be treated as stock of a PFIC for United States federal income tax purposes, but this conclusion is a factual determination that is made annually and thus may be subject to change.

In general, if you are a U.S. holder, we will be a PFIC with respect to you if for any taxable year in which you held our common shares:

at least 75% of our gross income for the taxable year is passive income; or

at least 50% of the value, determined on the basis of a quarterly average, of our assets is attributable to assets that produce or are held for the production of passive income.

Passive income generally includes dividends, interest, royalties, rents (other than certain rents and royalties derived in the active conduct of a trade or business), annuities and gains from assets that produce passive income. If a foreign corporation owns at least 25% by value of the stock

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

of another corporation, the foreign corporation is treated for purposes of the PFIC tests as owning its proportionate share of the assets of the other corporation, and as receiving directly its proportionate share of the other corporation's income.

If we are treated as a PFIC, and you are a U.S. holder that did not make a mark-to-market election, as described below, you will be subject to special rules with respect to:

any gain you realize on the sale or other disposition of your common shares; and

any excess distribution that we make to you (generally, any distributions to you during a single taxable year that are greater than 125% of the average annual distributions received by you in respect of the common shares during the three preceding taxable years or, if shorter, your holding period for the common shares).

Under these rules:

the gain or excess distribution will be allocated ratably over your holding period for the common shares,



## **Table of Contents**

the amount allocated to the taxable year in which you realized the gain or excess distribution will be taxed as ordinary income;

the amount allocated to each prior year, with certain exceptions, will be taxed at the highest tax rate in effect for that year; and

the interest charge generally applicable to underpayments of tax will be imposed in respect of the tax attributable to each such year.

If you own common shares in a PFIC that are treated as marketable stock, you may make a mark-to-market election. If you make this election, you will not be subject to the PFIC rules described above. Instead, in general, you will include as ordinary income each year the excess, if any, of the fair market value of your common shares at the end of the taxable year over your adjusted basis in your common shares. These amounts of ordinary income will not be eligible for the favorable tax rates applicable to qualified dividend income or long-term capital gains. You will also be allowed to take an ordinary loss in respect of the excess, if any, of the adjusted basis of your common shares over their fair market value at the end of the taxable year (but only to the extent of the net amount of previously included income as a result of the mark-to-market election). Your basis in the common shares will be adjusted to reflect any such income or loss amounts.

In addition, notwithstanding any election you make with regard to the common shares, dividends that you receive from us will not constitute qualified dividend income to you if we are a PFIC either in the taxable year of the distribution or the preceding taxable year. Dividends that you receive that do not constitute qualified dividend income are not eligible for taxation at the 15% maximum rate applicable to qualified dividend income. Instead, you must include the gross amount of any such dividend paid by us out of our accumulated earnings and profits (as determined for United States federal income tax purposes) in your gross income, and it will be subject to tax at rates applicable to ordinary income.

If you own common shares during any year that we are a PFIC, you must file Internal Revenue Service Form 8621.

## **Document on Display**

We are subject to the information requirements of the Securities Exchange Act of 1934, as amended. In accordance with these requirements, we file reports and other information with the Securities and Exchange Commission. These materials may be inspected and copied at the Commission's Public Reference Room at 450 Fifth Street, N.W., Washington, D.C. 20549. The public may obtain information on the operation of the Commission's Public Reference Room by calling the Commission in the United States at 1-800-SEC-0330. The Commission also maintains a web site at <http://www.sec.gov> that contains reports, proxy statements and other information regarding registrants that file electronically with the Commission.

## **Item 11. Quantitative and Qualitative Disclosure about Market Risk**

### **Market Risks**

Our exposure to financial market risks relates primarily to changes in interest rates and foreign exchange rates. To mitigate these risks, we utilize derivative financial instruments, the application of which is primarily for hedging, and not for speculative, purposes.

*Interest Rate Risks*

As of December 31, 2003, we had aggregate debt outstanding of NT\$5,966 million (US\$176 million), which was incurred for capital expenditure and general operating expenses. Of our outstanding debt, 65% bears interest at variable rates. The interest rate for the majority of our variable rate debt varies based on a fixed percentage spread over the prime rate established by our lenders. Our variable rate debt had an annual weighted average interest rate of 3.9% as of December 31, 2003. Accordingly, we have cash flow and earnings exposure due to market interest rate changes for our variable rate debt. An increase in interest rates of 1% would increase our annual interest charge by NT\$39 million based on our outstanding indebtedness as of December 31, 2003.

## **Table of Contents**

We currently do not enter into derivative transactions with regard to interest rates, but we would consider engaging in currency interest rate swaps to lock in favorable currency and interest rate levels from time to time, if available, on terms considered attractive by us. We had no interest rate derivative contracts outstanding as of December 31, 2003.

### *Foreign Currency Risks*

Our foreign currency exposure gives rise to market risks associated with exchange rate movements against the NT dollar, the Japanese yen and the US dollar. As of December 31, 2003, 19% of our accounts receivable are denominated in US dollars and Japanese yen, and 73% of our accounts payable and payables for properties are denominated in Japanese yen and US dollars. To minimize foreign currency exchange risk, from time to time we utilize forward exchange contracts and foreign currency options to hedge our exchange rate risk on foreign currency assets or liabilities positions. These hedging transactions help to reduce, but do not eliminate, the impact of foreign currency exchange rate movements. An average appreciation of the NT dollar against all other relevant foreign currencies of 5% would increase our annual exchange losses by NT\$98 million based on our outstanding assets and liabilities denominated in foreign currencies as of December 31, 2003. As of December 31, 2003, we had no outstanding forward exchange contracts and foreign currency options. Please see Note 25 of our consolidated financial statements for information on the net assets and liabilities hedged by these derivative transactions.

## **Item 12. Description of Securities Other Than Equity Securities**

Not applicable.

## **PART II**

## **Item 13. Defaults, Dividend Arrearages and Delinquencies**

*None.*

## **Item 14. Material Modifications to the Rights of Security Holders and Use of Proceeds**

Not applicable.

## **Item 15. Controls and Procedures**

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

An evaluation was carried out under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934). Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that these disclosure controls and procedures were effective as of December 31, 2003.

During 2003, no change to our internal control over financial reporting occurred that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

### **Item 16A. Audit Committee Financial Expert**

Our Board of Directors has determined that Mr. Robert Ma Kam Fook is an audit committee financial expert as defined under the applicable rules of the SEC issued pursuant to Section 407 of the Sarbanes-Oxley Act of 2002 serving on our audit committee.

### **Item 16B. Code of Ethics**

We have adopted a Code of Business Conduct and Ethics, which applies to our directors, officers and employees. A copy of our Code of Business Conduct and Ethics is filed as an exhibit to this annual report.

**Table of Contents****Item 16C. Principal Accountant Fees and Services**

The table below summarizes the fees that we paid or accrued for services provided by Moore Stephens for the years ended December 31, 2002 and 2003.

	<u>2002</u>	<u>2003</u>
	(In thousands)	
Audit Fees	NT\$ 2,862	NT\$ 4,232
Audit Related Fees		
Tax Fees		
All Other Fees		
	<u>          </u>	<u>          </u>
<b>Total</b>	<b>NT\$ 2,862</b>	<b>NT\$ 4,232</b>

*Audit Fees.* This category includes the audit of our annual financial statements and services that are normally provided by the independent auditors in connection with statutory and regulatory filings or engagements for those fiscal years.

All non-audit services need to be pre-approved by the Audit Committee on a case-by-case basis. Accordingly, we have not established any pre-approval policies and procedures. All audit services that Moore Stephens were engaged to carry out after May 6, 2003, the effective date of revised Rule 2-01(c) (7) of Regulation S-X entitled "Audit Committee Administration of the Engagement" on strengthening requirements regarding auditor independence, were pre-approved by the Audit Committee.

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

Not applicable.

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

Not applicable.

**PART III****Item 17. Financial Statements**

The Company has elected to provide the financial statements and related information specified in Item 18 in lieu of Item 17.

**Item 18. Financial Statements**

**INDEX TO FINANCIAL STATEMENTS**

	<b>Page</b>
ChipMOS TECHNOLOGIES (Bermuda) LTD. and Subsidiaries	
<u>Independent Auditors Report</u>	F-1
<u>Consolidated Balance Sheets</u>	F-2
<u>Consolidated Statements of Operations</u>	F-4
<u>Consolidated Statements of Changes in Shareholders Equity</u>	F-6
<u>Consolidated Statements of Cash Flows</u>	F-7
<u>Notes to Consolidated Financial Statements</u>	F-9

**Table of Contents****Item 19. Exhibits**

<b>Exhibits</b>	<b>Description</b>
1.1	Memorandum of Association of ChipMOS TECHNOLOGIES (Bermuda) LTD. <sup>(1)</sup>
1.2	Bye-laws of ChipMOS TECHNOLOGIES (Bermuda) LTD. <sup>(2)</sup>
2.1	Certificate of Incorporation of ChipMOS TECHNOLOGIES (Bermuda) LTD., dated August 15, 2000. <sup>(1)</sup>
4.1	Joint Venture Agreement, dated July 14, 1997, between Mosel Vitelic Inc. and Siliconware Precision Industries Co., Ltd. <sup>(1)</sup>
4.2	Asset Sales Agreement, dated June 14, 1999, between Microchip Technology Taiwan and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.3	Tessera Compliant Chip License Agreement, dated April 20, 1999, between Tessera Inc. and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.4	License Agreement, dated April 1, 1999, between Fujitsu Ltd. and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.5	Sales Agreement, dated February 10, 2000, between Sharp Corp. and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.6	Raw Materials Processing Agreement, dated August 10, 2000, between Mosel Vitelic Inc. and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.7	Raw Materials Processing Agreement, dated January 1, 2001, between Siliconware Precision Co. Ltd. and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.8	Integrated Circuit Processing Agreement, dated January 1, 2001, between Siliconware Precision Co. Ltd. and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.9	Integrated Circuit Processing and Warehousing Management Agreement, dated August 10, 2000, between Mosel Vitelic Inc. and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.10	Land Lease Agreement, dated November 26, 1997, between Science Based Industrial Park Administration and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.11	Land Lease Agreement, dated November 26, 1997, between Science Based Industrial Park Administration and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.12	Land Lease Agreement, dated September 1, 1997, between Science Based Industrial Park Administration and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.13	Purchase Agreement, dated July 31, 1997, between ChipMOS TECHNOLOGIES INC. and Mosel Vitelic Inc. <sup>(1)</sup>
4.14	Lease Agreement for Public Land in Custody of Kaohsiung Branch, Export Processing Zone Administration, Ministry of Economic Affairs, dated June 10, 2002, between Kaohsiung Branch, ChipMOS TECHNOLOGIES INC. and Kaohsiung Branch, Export Processing Zone Administration, Ministry of Economic Affairs. <sup>(1)</sup>
4.15	Form of Share Exchange Covenant Letter from the Company to the Shareholders. <sup>(1)</sup>
4.16	Amendment to the Integrated Circuit Processing and Warehousing Management Agreement, dated August 10, 2000, between Mosel Vitelic Inc. and ChipMOS TECHNOLOGIES INC, dated September 1, 2001. <sup>(3)</sup>
4.17	Purchase Agreement between ChipMOS TECHNOLOGIES INC. and DenMOS Technology Inc. <sup>(3)</sup>
4.18	Sale and Purchase Agreement, dated April 25, 2003, between ChipMOS TECHNOLOGIES INC. and Ron How Investment Corp. (English Translation) <sup>(4)</sup>
4.19	Sale and Purchase Agreement, dated April 25, 2003, between ChipMOS TECHNOLOGIES INC. and Yuan Shan Investment Corp. (English Translation) <sup>(4)</sup>
4.20	Sale and Purchase Agreement, dated April 25, 2003, between ChipMOS TECHNOLOGIES INC. and Mosel Vitelic Inc. (English Translation) <sup>(4)</sup>
4.21	Laser Stamping Machine Lease Agreement, dated November 1, 2002, between ChipMOS TECHNOLOGIES INC. and CHANTEK ELECTRONIC CO., LTD. (English Translation) <sup>(4)</sup>

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

- 4.22 Automatic Stamping Machine Lease Agreement, dated December 1, 2002, between ChipMOS TECHNOLOGIES INC. and CHANTEK ELECTRONIC CO., LTD. (English Translation)<sup>(4)</sup>
- 4.23 Raw Materials Processing Agreement, dated January 1, 2003, between ChipMOS TECHNOLOGIES INC. and CHANTEK ELECTRONIC CO., LTD. (English Translation)<sup>(4)</sup>
- 4.24 Integrated Circuit Processing Agreement, dated January 1, 2003, between ChipMOS TECHNOLOGIES INC. and CHANTEK ELECTRONIC CO., LTD. (English Translation)<sup>(4)</sup>

-85-



**Table of Contents**

<b>Exhibits</b>	<b>Description</b>
4.25	Technology Transfer Agreement, dated December 24, 2002, between ChipMOS TECHNOLOGIES INC. and ThaiLin Semiconductor Corp. (English Translation) <sup>(4)</sup>
4.26	Tester Equipment Lease Agreement, dated November 14, 2002, between ChipMOS TECHNOLOGIES INC. and ThaiLin Semiconductor Corp. (English Translation) <sup>(4)</sup>
4.27	Tester Equipment Lease Agreement, dated December 3, 2002, between ChipMOS TECHNOLOGIES INC. and ThaiLin Semiconductor Corp. (English Translation) <sup>(4)</sup>
4.28	Joint Engagement Letter, undated, by and among Ultima Electronics Corp., ChipMOS TECHNOLOGIES INC. and Sun-Fund Securities Ltd. (English Translation) <sup>(4)</sup>
4.29	Lease Agreement, dated June 1, 2002, between ChipMOS TECHNOLOGIES INC. and SyncMOS Technologies, Inc. (English Translation) <sup>(4)</sup>
4.30	Technology Transfer Agreement, dated August 1, 2002, between ChipMOS TECHNOLOGIES (Bermuda) LTD. and ChipMOS TECHNOLOGIES (Shanghai) LTD. <sup>(4)</sup>
4.31	Promissory Note from Modern Mind Technology Limited to Jesper Limited, dated November 4, 2002. <sup>(4)</sup>
4.32	Deed of Variation, dated December 2, 2002, between Modern Mind Technology Limited to Jesper Limited. <sup>(4)</sup>
4.33	Deed of Assignment, dated December 27, 2002, between Jesper Limited and ChipMOS TECHNOLOGIES (Bermuda) LTD. <sup>(4)</sup>
4.34	Deed of Assignment, dated June 25, 2003, between Jesper Limited and ChipMOS TECHNOLOGIES INC. <sup>(4)</sup>
4.35	Agreement, dated May 3, 2003, between Jesper Limited and ChipMOS TECHNOLOGIES (Bermuda) LTD. <sup>(4)</sup>
4.36	Cooperation Agreement, dated March 27, 2002 between Shanghai Qingpu Industrial Zone Development (Group) Company and Modern Mind Technology Limited. (English Translation) <sup>(4)</sup>
4.37	Deed of assignment, dated December 17, 2003, between ChipMOS TECHNOLOGIES INC. and ChipMOS TECHNOLOGIES (Bermuda) LTD.
4.38	Supplemental deed of assignment, dated May 14, 2004 between ChipMOS TECHNOLOGIES INC. and ChipMOS TECHNOLOGIES (Bermuda) LTD.
4.39	Assignment agreement, dated April 7, 2004, between ChipMOS TECHNOLOGIES (Bermuda) LTD. and ChipMOS TECHNOLOGIES INC.
4.40	Supplemental assignment agreement, dated May 14, 2004, between ChipMOS TECHNOLOGIES (Bermuda) LTD. and ChipMOS TECHNOLOGIES INC.
4.41	Patent license agreement, dated April 7, 2004, between ChipMOS TECHNOLOGIES (Bermuda) LTD. and ChipMOS TECHNOLOGIES INC
8.1	List of subsidiaries of ChipMOS TECHNOLOGIES (Bermuda) LTD.
11.1	Code of Business Conduct and Ethics.
12.1	Certification of Chief Executive Officer required by Rule 13a-14(a) under the Exchange Act
12.2	Certification of Chief Financial Officer required by Rule 13a-14(a) under the Exchange Act
13.1	Certification of Chief Executive Officer required by Rule 13a-14(b) under the Exchange Act
13.2	Certification of Chief Financial Officer required by Rule 13a-14(b) under the Exchange Act
23.1	Consent of auditors.

(1) Incorporated by reference to our Registration Statement on Form F-1 (File No. .333-13218), filed on February 28, 2001.

(2) Incorporated by reference to our report on Form 6-K, dated February 19, 2002.

(3) Incorporated by reference to our Annual Report on Form 20-F (File No. 0-31106), filed on June 17, 2002.

(4) Incorporated by reference to our Annual Report on Form 20-F (File No. 0-31106), filed on June 30, 2003.

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

We have not included as exhibits certain instruments with respect to our long-term debt, the amount of debt authorized under each of which does not exceed 10% of our total assets, and we agree to furnish a copy of any such instrument to the Commission upon request.

-86-

**Table of Contents**

**SIGNATURES**

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, the Registrant certifies that it has reasonable grounds to believe that it meets all the requirements for filing on Form 20-F and has duly caused this annual report to be signed on its behalf by the undersigned, thereunto duly authorized, in Taipei, Taiwan, Republic of China, on June 17, 2004.

**ChipMOS TECHNOLOGIES (Bermuda) LTD.**

By: /s/ Shih-Jye Cheng

---

Name: Shih-Jye Cheng

Title: Chairman and Chief Executive Officer

**Table of Contents**

**INDEPENDENT AUDITORS REPORT**

The Board of Directors and Shareholders

ChipMOS TECHNOLOGIES (Bermuda) LTD.

We have audited the accompanying consolidated balance sheets of ChipMOS TECHNOLOGIES (Bermuda) LTD. and subsidiaries (collectively the Company ) (see Note 1) as of December 31, 2003 and 2002, and the related consolidated statements of operations, changes in shareholders equity, and cash flows for each of the three years in the period ended December 31, 2003, all expressed in New Taiwan dollars. These consolidated financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the Republic of China and the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2003 and 2002, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2003, in conformity with accounting principles generally accepted in the Republic of China.

Accounting principles generally accepted in the Republic of China vary in certain significant respects from accounting principles generally accepted in the United States of America. The application of the latter would have affected the determination of net income (loss) for each of the three years in the period ended December 31, 2003, and the determination of shareholders equity and financial position at December 31, 2003 and 2002, to the extent summarized in Note 27.

**/s/ Moore Stephens**

**Moore Stephens**

*Certified Public Accountants*

*Hong Kong*

May 21, 2004

**Table of Contents****ChipMOS TECHNOLOGIES (Bermuda) LTD. AND SUBSIDIARIES****CONSOLIDATED BALANCE SHEETS****December 31, 2002 and 2003 (Notes 1 and 18)****(In Thousands of New Taiwan and U.S. Dollars, Except Par Value)**

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$ (Note 3)
<b>ASSETS</b>			
<b>CURRENT ASSETS</b>			
Cash	980,009	1,730,964	50,926
Vanuatu bank account (Note 2)	1,507,523		
Restricted cash and cash equivalents (Note 21)	76,868	282,378	8,308
Short-term investments net (Notes 2 and 4)	874,932	664,251	19,543
Notes receivable third parties	30,474	11,729	345
Accounts receivable net of allowance for doubtful receivables and sales return allowances of NT\$32,346 in 2002 and NT\$56,003 in 2003 (Notes 2 and 5)			
Related parties (Note 20)	1,104,475	1,342,366	39,493
Third parties	562,480	1,290,660	37,972
Other receivables net of allowance for doubtful receivables and sales return allowances of NT\$12,510 in 2002 and NT\$41,285 in 2003 (Notes 2 and 5)			
Related parties (Note 20)	11,547	266,175	7,831
Third parties (Note 6)	92,277	866,582	25,495
Inventories net (Notes 2 and 7)	166,493	335,496	9,870
Deferred income tax net (Notes 2 and 19)	38,467	266,949	7,854
Prepaid expenses and other current assets (Note 8)	223,209	422,167	12,420
<b>Total Current Assets</b>	<b>5,668,754</b>	<b>7,479,717</b>	<b>220,057</b>
<b>LONG-TERM INVESTMENTS (Notes 2 and 9)</b>	<b>1,441,866</b>	<b>640,512</b>	<b>18,844</b>
<b>PROPERTY, PLANT AND EQUIPMENT NET (Notes 2, 10, 15 and 16)</b>			
<b>Cost</b>			
Buildings and auxiliary equipment	2,655,633	3,546,126	104,328
Machinery and equipment	14,000,833	17,417,843	512,440
Furniture and fixtures	493,775	280,371	8,249
Transportation equipment	17,270	20,285	597
Tools	833,075	1,058,897	31,153
Leasehold improvements	8,811	6,865	202
<b>Total cost</b>	<b>18,009,397</b>	<b>22,330,387</b>	<b>656,969</b>
Accumulated depreciation	(8,915,451)	(12,254,664)	(360,537)

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Construction in progress and advance payments	949,683	1,011,107	29,747
Net Property, Plant and Equipment	10,043,629	11,086,830	326,179
INTANGIBLE ASSETS NET (Notes 2 and 11)	51,876	225,203	6,626
<b>OTHER ASSETS</b>			
Restricted cash and cash equivalents (Note 21)	601,744		
Employee dormitory buildings net of accumulated depreciation of NT\$32,367 in 2002 and NT\$41,491 in 2003 (Note 2)	129,978	192,105	5,652
Refundable deposits	14,953	13,724	404
Goodwill (Note 2)	911	728	21
Others		26,868	790
Total Other Assets	747,586	233,425	6,867
<b>TOTAL ASSETS</b>	<b>17,953,711</b>	<b>19,665,687</b>	<b>578,573</b>
(Forward)			

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

**Table of Contents****ChipMOS TECHNOLOGIES (Bermuda) LTD. AND SUBSIDIARIES****CONSOLIDATED BALANCE SHEETS****December 31, 2002 and 2003 (Notes 1 and 18)****(In Thousands of New Taiwan and U.S. Dollars, Except Par Value)**

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$ (Note 3)
<b>LIABILITIES AND SHAREHOLDERS EQUITY</b>			
<b>CURRENT LIABILITIES</b>			
Bank loans (Note 12)	2,032,631	1,566,773	46,095
Current portion of long-term loans (Note 16)	352,160	692,840	20,383
Convertible bonds (Note 13)		267,611	7,873
Promissory loan note (Notes 13 and 20)	575,850		
Commercial paper (Note 13)	159,427		
Deferred income		3,565	105
Notes payable - third parties		27,328	804
Accounts payable			
Related parties (Note 20)		5,570	164
Third parties	145,352	339,801	9,997
Other payables			
Related parties (Note 20)	1,344	1,019	30
Third parties	192,747	263,823	7,762
Income tax payable (Note 2)		193	6
Payables to contractors and equipment suppliers	158,750	344,561	10,137
Accrued expenses and other current liabilities (Note 14)	465,124	437,979	12,886
<b>Total Current Liabilities</b>	<b>4,083,385</b>	<b>3,951,063</b>	<b>116,242</b>
<b>LONG-TERM LIABILITIES</b>			
Long-term bonds payable (Note 15)	1,200,000	1,200,000	35,304
Long-term loans (Note 16)	2,811,435	2,238,872	65,869
<b>Total Long-Term Liabilities</b>	<b>4,011,435</b>	<b>3,438,872</b>	<b>101,173</b>
<b>OTHER LIABILITIES</b>			
Deferred income tax - net (Notes 2 and 19)	231,779	367,941	10,825
Deferred income		174,308	5,128
Accrued pension cost (Notes 2 and 17)	26,194	56,361	1,658
Guarantee deposits	461	933	28
<b>Total Other Liabilities</b>	<b>258,434</b>	<b>599,543</b>	<b>17,639</b>

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Total Liabilities	8,353,254	7,989,478	235,054
MINORITY INTERESTS	2,887,109	4,427,971	130,273
COMMITMENTS AND CONTINGENCIES (Note 23)			
SHAREHOLDERS EQUITY (Notes 2 and 18)			
Capital stock NT\$0.3268 (US\$0.01) par value			
Authorized 150,000 thousand shares (2002: 100,000 thousand shares)			
Issued 59,300 thousand shares (2002: 58,873 thousand shares)	19,233	19,379	570
Capital surplus	7,645,968	7,711,229	226,868
Option warrants	64,401	86,674	2,550
Deferred compensation	(39,245)	(42,615)	(1,254)
Retained earnings (accumulated deficits)	(976,917)	(494,949)	(14,562)
Treasury stock	420	420	12
Cumulative translation adjustments	(512)	(31,900)	(938)
Total Shareholders Equity	6,713,348	7,248,238	213,246
TOTAL LIABILITIES AND SHAREHOLDERS EQUITY	17,953,711	19,665,687	578,573

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



**Table of Contents****ChipMOS TECHNOLOGIES (Bermuda) LTD. AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF OPERATIONS****For the Years Ended December 31, 2001, 2002 and 2003 (Notes 1 and 18)****(In Thousands of New Taiwan and U.S. Dollars, Except Earnings (Loss) Per Share)**

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$ (Note 3)
<b>NET REVENUE (Notes 2 and 20)</b>				
Related parties	3,718,979	3,665,384	5,072,942	149,248
Third parties	1,526,116	2,860,481	3,953,589	116,316
<b>Total Net Revenues</b>	<b>5,245,095</b>	<b>6,525,865</b>	<b>9,026,531</b>	<b>265,564</b>
<b>COST OF REVENUE (Note 20)</b>				
Related parties	3,760,067	3,004,306	3,767,370	110,838
Third parties	2,269,242	3,707,400	3,692,205	108,626
<b>Total Cost of Revenue</b>	<b>6,029,309</b>	<b>6,711,706</b>	<b>7,459,575</b>	<b>219,464</b>
<b>GROSS PROFIT (LOSS)</b>	<b>(784,214)</b>	<b>(185,841)</b>	<b>1,566,956</b>	<b>46,100</b>
<b>OPERATING EXPENSES (Note 20)</b>				
Research and development (Note 2)	408,905	326,753	295,033	8,680
General and administrative	248,026	310,200	439,875	12,941
Sales and marketing (Note 2)	34,654	37,354	65,367	1,923
<b>Total Operating Expenses</b>	<b>691,585</b>	<b>674,307</b>	<b>800,275</b>	<b>23,544</b>
<b>INCOME (LOSS) FROM OPERATIONS</b>	<b>(1,475,799)</b>	<b>(860,148)</b>	<b>766,681</b>	<b>22,556</b>
<b>NON-OPERATING INCOME</b>				
Gain on sales of investments (Note 2)	232,701	50,370	92,666	2,726
Rental (Note 20)	93,491	35,473	24,960	734
Interest	65,281	38,231	47,703	1,403
Foreign exchange gain net (Note 2)	55,350			
Reversal of allowance for doubtful receivables (Note 5)	38,835			
Subsidy income	26,161	8,982	12,057	355
Gain on disposal of property, plant and equipment (Note 2)	240	37,698	98,509	2,898
Other	13,673	10,262	53,307	1,569
<b>Total Non-Operating Income</b>	<b>525,732</b>	<b>181,016</b>	<b>329,202</b>	<b>9,685</b>

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

F-4

**Table of Contents****ChipMOS TECHNOLOGIES (Bermuda) LTD. AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF OPERATIONS****For the Years Ended December 31, 2001, 2002 and 2003 (Notes 1 and 18)****(In Thousands of New Taiwan and U.S. Dollars, Except Earnings (Loss) Per Share)**

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$ (Note 3)
<b>NON-OPERATING EXPENSES</b>				
Interest	299,136	242,130	247,967	7,295
Loss on lease rescission net (Note 23c)	116,622			
Public listing fees	82,687			
Investment loss recognized by equity method (Notes 2 and 9)	75,035	95,001	8,984	264
Financing cost	14,768	17,113	14,623	430
Allowance for loss on short-term investments (Note 4)		168,604	29,030	854
Loss on disposal of property, plant and equipment (Note 2)	1,079	640	17,497	515
Foreign exchange loss net (Note 2)		42,296	78,793	2,318
Other	13,635	12,828	9,437	278
<b>Total Non-Operating Expenses</b>	<b>602,962</b>	<b>578,612</b>	<b>406,331</b>	<b>11,954</b>
<b>INCOME (LOSS) BEFORE INCOME TAX AND MINORITY INTERESTS</b>	<b>(1,553,029)</b>	<b>(1,257,744)</b>	<b>689,552</b>	<b>20,287</b>
INCOME TAX EXPENSE (BENEFIT) (Notes 2 and 19)	32,413	97,916	(29,006)	(853)
<b>INCOME (LOSS) BEFORE MINORITY INTERESTS</b>	<b>(1,585,442)</b>	<b>(1,355,660)</b>	<b>718,558</b>	<b>21,140</b>
MINORITY INTERESTS	450,515	385,375	(256,896)	(7,558)
<b>PRE-ACQUISITION EARNINGS</b>			<b>20,723</b>	<b>610</b>
<b>NET INCOME (LOSS)</b>	<b>(1,134,927)</b>	<b>(970,285)</b>	<b>482,385</b>	<b>14,192</b>
<b>EARNINGS (LOSS) PER SHARE BASIC</b>	<b>(19.45)</b>	<b>(16.49)</b>	<b>8.19</b>	<b>0.24</b>
<b>WEIGHTED AVERAGE NUMBER OF SHARES OUTSTANDING BASIC</b>	<b>58,342</b>	<b>58,835</b>	<b>58,908</b>	<b>58,908</b>
<b>EARNINGS (LOSS) PER SHARE DILUTED</b>	<b>(19.45)</b>	<b>(16.49)</b>	<b>8.12</b>	<b>0.24</b>
<b>WEIGHTED AVERAGE NUMBER OF SHARES OUTSTANDING DILUTED</b>	<b>58,342</b>	<b>58,835</b>	<b>59,429</b>	<b>59,429</b>

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

**Table of Contents****ChipMOS TECHNOLOGIES (Bermuda) LTD. AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY**

For the Years Ended December 31, 2001, 2002 and 2003 (Notes 1 and 18)

(In Thousands of New Taiwan and U.S. Dollars, Except Number of Shares)

	CAPITAL STOCK ISSUED		Option Warrants	Deferred Compensation	RETAINED EARNINGS (ACCUMULATED DEFICITS)	UNREALISED LOSS ON LONG-TERM INVESTMENTS (Note 2)	CUMULATIVE TRANSLATION ADJUSTMENTS (Note 2)	TREASURY STOCK	TOTAL SHAREHOLDERS' EQUITY
	Shares (Thousand)	CAPITAL SURPLUS							
	NT\$	NT\$	NT\$	NT\$	NT\$	NT\$	NT\$	NT\$	
BALANCE, JANUARY 1, 2001	58,342	19,048	7,595,523		1,133,366	(38,906)	(206)		8,708,8
Loss for 2001					(1,134,927)				(1,134,9
Reversal of unrealized losses on long-term investments						38,906			38,9
Adjustment arising from changes in ownership percentage of subsidiaries			(13,351)						(13,3
Translation adjustments							(272)		(2
<b>BALANCE, DECEMBER 31, 2001</b>	<b>58,342</b>	<b>19,048</b>	<b>7,582,172</b>		<b>(1,561)</b>		<b>(478)</b>		<b>7,599,1</b>
Increase of stock options	531	185	63,052						63,2
Increase of option warrants				64,401	(39,245)				25,1
Loss for 2002					(970,285)				(970,2
Adjustment of equity method for long-term investment			744		(5,071)			420	(3,9
Translation adjustments							(34)		(
<b>BALANCE, DECEMBER 31, 2002</b>	<b>58,873</b>	<b>19,233</b>	<b>7,645,968</b>	<b>64,401</b>	<b>(39,245)</b>	<b>(976,917)</b>	<b>(512)</b>	<b>420</b>	<b>6,713,3</b>
Increase of stock options	427	146	56,815						56,9
Increase of option warrants				22,273	(3,370)				18,9
Profit for 2003					482,385				482,3
Adjustment of equity method for long-term investment			8,446		(417)				8,0
Translation adjustments							(31,388)		(31,3
<b>BALANCE, DECEMBER 31, 2003</b>	<b>59,300</b>	<b>19,379</b>	<b>7,711,229</b>	<b>86,674</b>	<b>(42,615)</b>	<b>(494,949)</b>	<b>(31,900)</b>	<b>420</b>	<b>7,248,2</b>

---

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

F-6

**Table of Contents****ChipMOS TECHNOLOGIES (Bermuda) LTD. AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF CASH FLOWS****For the Years Ended December 31, 2001, 2002 and 2003 (Notes 1 and 18)****(In Thousands of New Taiwan and U.S. Dollars)**

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$ (Note 3)
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>				
Net income (loss)	(1,134,927)	(970,285)	482,385	14,192
Adjustments to reconcile net income (loss) to net cash provided by operating activities				
Depreciation	2,625,559	2,690,657	2,658,307	78,208
Amortization	189,792	129,962	56,652	1,667
Deferred compensation		25,154	18,903	556
Loss (gain) on disposal of property, plant and equipment net	839	(36,391)	(81,012)	(2,384)
Investment loss (gain) recognized by equity method	75,035	95,001	(11,739)	(345)
Accrued pension cost	2,550	6,988	30,167	887
Deferred income tax net	(5,240)	78,682	(77,217)	(2,272)
Minority interests	(450,515)	(449,612)	609,444	17,930
Changes in operating assets and liabilities				
Notes receivable	(11,645)	226	24,829	730
Accounts receivable	518,344	(216,123)	(727,143)	(21,393)
Other receivables	15,039	(81,643)	(1,027,726)	(30,236)
Inventories	152,944	5,761	(169,003)	(4,972)
Prepaid expenses and other current assets	69,715	(205,562)	(168,994)	(4,972)
Other assets			(26,868)	(790)
Notes payable			(3,243)	(95)
Accounts payable	(108,139)	25,267	200,019	5,885
Other payables	(47,342)	(105,217)	70,751	2,082
Income tax payable	(25,831)	(35,731)	193	6
Accrued expenses and other liabilities	(245,714)	432,193	18,842	554
Deferred income		74,406	(389)	(11)
<b>Net Cash Provided by Operating Activities</b>	<b>1,620,464</b>	<b>1,463,733</b>	<b>1,877,158</b>	<b>55,227</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>				
(Increase) decrease in restricted cash and cash equivalents	(801,587)	157,013	396,234	11,657
(Increase) decrease in short-term investments	1,078,262	95,004	701,628	20,642
Proceeds from sales of property, plant and equipment	2,981	218,757	535,490	15,754
Cash inflow from acquisition of subsidiary (Note 22b)			103,454	3,044
Acquisitions of:				
Long-term investments	(10,698)	(1,271,038)	(14,493)	(426)
Property, plant and equipment	(1,671,604)	(2,308,021)	(2,401,825)	(70,663)
Intangible assets	(23,712)	(26,469)	(51,535)	(1,516)
Employee dormitory building	(14,870)	(310)	(71,251)	(2,096)
Goodwill		(918)		
(Increase) decrease in refundable deposits	31,510	90	41,493	1,221

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Net Cash Used in Investing Activities	(1,409,718)	(3,135,892)	(760,805)	(22,383)
---------------------------------------	-------------	-------------	-----------	----------

F-7



**Table of Contents****ChipMOS TECHNOLOGIES (Bermuda) LTD. AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF CASH FLOWS (Continued)****For the Years Ended December 31, 2001, 2002 and 2003 (Notes 1 and 18)****(In Thousands of New Taiwan and U.S. Dollars)**

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$ (Note 3)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>				
Payments on:				
Bank loans			(718,586)	(21,141)
Commercial paper payable			(159,427)	(4,690)
Long-term loans	(1,052,339)		(352,133)	(10,360)
Proceeds from:				
Bank loans	833,144	965,869	222,728	6,552
Commercial paper payable		159,427		
Long-term loans		1,214,184		
Bonds payable			(283,894)	(8,352)
Issuance of capital stock		63,237	65,407	1,924
Increase (decrease) in guarantee deposits	(580)	19	(39,778)	(1,170)
Promissory loan note		575,850	(575,850)	(16,942)
Net Cash Provided by (Used in) Financing Activities	(219,775)	2,978,586	(1,841,533)	(54,179)
EFFECT OF EXCHANGE RATE CHANGES ON CASH	(391)		(31,388)	(923)
Net Increase (Decrease) in Cash Brought Forward	(9,420)	1,306,427	(756,568)	(22,258)
Cash, beginning of the year	1,190,525	1,181,105	2,487,532	73,184
Cash, end of the year	1,181,105	2,487,532	1,730,964	50,926
<b>SUPPLEMENTAL INFORMATION</b>				
Income tax paid	63,484	56,766	469	14
Interest paid	367,495	243,652	242,987	7,149
<b>NON CASH FINANCING ACTIVITIES</b>				
Current portion of long-term loans	1,180,000	352,160	692,840	20,383
<b>PARTIAL CASH PAID FOR INVESTING ACTIVITIES</b>				
Cash paid for acquisition of property, plant and equipment				
Total acquisitions	991,968	2,091,342	2,508,188	73,792
Decrease (increase) in payables to contractors and equipment suppliers	679,636	216,679	(106,363)	(3,129)

1,671,604	2,308,021	2,401,825	70,663
-----------	-----------	-----------	--------

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

F-8

---

**Table of Contents**

**ChipMOS TECHNOLOGIES (Bermuda) LTD. AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. ORGANIZATION AND BUSINESS**

ChipMOS TECHNOLOGIES (Bermuda) LTD. (ChipMOS Bermuda) was incorporated under the laws of Bermuda on August 1, 2000, and its common shares have been traded on the Nasdaq National Market since June 2001. As of December 31, 2003, ChipMOS Bermuda was 44.11% owned by Mosel Vitelic Inc. (MVI) through its wholly-owned subsidiary, Giant Haven Investment Ltd. and its indirectly-owned subsidiary, Mou-Fu Investment Ltd. As of December 31, 2003, ChipMOS Bermuda owned 70.34% of the outstanding common shares of ChipMOS TECHNOLOGIES INC. (ChipMOS Taiwan) and Siliconware Precision Industries Co. Ltd. (SPIL) owned 28.73%.

ChipMOS Taiwan was incorporated in Taiwan on July 28, 1997 as a joint venture company between MVI and SPIL. Its operations consist of testing and assembly of semiconductors. ChipMOS Taiwan also provides semiconductor testing and assembly services on a turnkey basis, which entails ChipMOS Taiwan purchasing fabricated wafers and selling tested and assembled semiconductors. In connection with a corporate restructuring on January 12, 2001, the holders of an aggregate of 583,419 thousand common shares of ChipMOS Taiwan executed a Purchase and Subscription Agreement whereby they transferred their shares of ChipMOS Taiwan to ChipMOS Bermuda in exchange for 58,342 thousand common shares in ChipMOS Bermuda. The selling shareholders, who previously held in an aggregate of 70.25% of the entire outstanding common shares of ChipMOS Taiwan, thus, became the holders of the entire outstanding common shares of ChipMOS Bermuda. Because 100% of the outstanding common shares of ChipMOS Bermuda was owned by former shareholders of ChipMOS Taiwan, the exchange of shares has been accounted for as a merger as if ChipMOS Bermuda was the acquirer. Equity and operations attributable to ChipMOS Taiwan shareholders not participating in the exchange offer were reflected as minority interests in the historical financial statements. MVI participated in the restructuring and share exchange described above and SPIL did not.

ChipMOS Bermuda also controlled both Modern Mind Technology Limited (Modern Mind) and its 100% subsidiary ChipMOS TECHNOLOGIES (Shanghai) Limited (ChipMOS Shanghai) and enjoyed the primary beneficial interest in Modern Mind and ChipMOS Shanghai. For this reason Modern Mind and ChipMOS Shanghai have been consolidated into these financial statements in spite of the fact that ChipMOS Bermuda does not hold an equity interest in Modern Mind.

As of December 31, 2003, ChipMOS Taiwan owned 100% of the outstanding shares of both ChipMOS Japan Inc. (ChipMOS Japan) and ChipMOS USA Inc. (ChipMOS USA), 25% of the outstanding shares of PlusMOS TECHNOLOGIES Inc. (PlusMOS), 34% of Chantek Electronic Co. Ltd. (Chantek), 36.45% of ThaiLin Semiconductor Corp. (ThaiLin) and 30.77% of Advanced Micro Technology Co., Ltd. (AMCT).

ThaiLin was incorporated on May 15, 1996 and is listed on the GreTai Securities Market in Taiwan. ThaiLin is engaged in wafer and semiconductor testing services. On December 31, 2002, ChipMOS Taiwan



## **Table of Contents**

### **1. ORGANIZATION AND BUSINESS (continued)**

acquired an equity interest of 41.8% in ThaiLin. As of December 31, 2003, ChipMOS held a 36.45% equity interest in ThaiLin. On December 1, 2003, ChipMOS Taiwan obtained the controlling influence over ThaiLin's decisions on its operations, personnel and financial policies. Therefore, ThaiLin has been consolidated into these financial statements from December 1, 2003 in spite of the fact that ChipMOS Taiwan holds an equity interest of less than 50% in ThaiLin.

ChipMOS Japan was incorporated in Japan in June 1999, and ChipMOS USA was incorporated in the United States of America in October 1999. The two companies engage in sales and customer services and all the expenses incurred from these activities are charged to current income. ChipMOS Japan began generating revenue in 2000, while ChipMOS USA began generating revenue in 2001.

PlusMOS was incorporated in Taiwan on March 22, 2000 as a joint venture between ChipMOS Taiwan (25%) and MVI (49.31% indirectly and directly). Its operations consist of manufacture, design and sale of DRAM modules.

Chantek was incorporated in Taiwan in May 1989, and is listed on the GreTai Securities Market in Taiwan. It provides semiconductor assembly services for low-density volatile and non-volatile memory semiconductors, consumer semiconductors and microcontroller semiconductors. ChipMOS Taiwan acquired its 34% ownership interest in Chantek on September 16, 2002.

AMCT was incorporated in Taiwan in March 2000. It provides gold bumping services, which are used in connection with the assembly of liquid crystal display, or LCD, and other flat-panel display driver semiconductors. In February 2003, ChipMOS Taiwan acquired a 23.1% interest in AMCT. ChipMOS Taiwan increased its ownership in AMCT during 2003 and held 30.77% as of December 31, 2003.

Modern Mind was incorporated in the British Virgin Islands on January 29, 2002. Modern Mind conducts its operations through ChipMOS Shanghai. ChipMOS Bermuda acquired a 100% equity interest in Modern Mind on December 12, 2002, and then transferred it to Jesper Limited (Jesper) on December 31, 2002. In 2002 and 2003, ChipMOS Bermuda acquired from Jesper and ChipMOS Taiwan convertible notes issued by Modern Mind that are convertible into a controlling equity interest in Modern Mind if the repayment is not made when due. Accordingly, ChipMOS Bermuda is deemed to have a controlling interest in Modern Mind.

ChipMOS Shanghai, a wholly-owned subsidiary of Modern Mind, was incorporated in Mainland China on June 7, 2002. ChipMOS Shanghai is engaged in wafer testing, semiconductor assembly and testing, and module and subsystem manufacturing. ChipMOS Shanghai commenced commercial production in 2003.

ChipMOS Far East Limited (formerly Leader Partner Limited) (ChipMOS Far East) was incorporated in Hong Kong on November 18, 2002. It is engaged in financial management and marketing and sales. ChipMOS Far East is a wholly-owned subsidiary of ChipMOS Bermuda.

### **2. SIGNIFICANT ACCOUNTING POLICIES**

*Basis of presentation*

The consolidated financial statements include the accounts of ChipMOS Bermuda and all subsidiaries in which ChipMOS Bermuda (hereinafter, referred to individually or collectively as the Company ) holds a controlling interest or voting interests in excess of 50% in accordance with the requirements of ROC Financial

F-10

**Table of Contents****2. SIGNIFICANT ACCOUNTING POLICIES (continued)**

Accounting Standards ( FAS No. 7 ) and the regulations of the Taiwan Securities and Futures Commission ( SFC ). All significant intercompany accounts and transactions have been eliminated.

The Company s consolidated financial statements include for 2001 the financial results of ChipMOS Taiwan and its wholly-owned subsidiaries, ChipMOS Japan and ChipMOS USA. For 2002 and 2003, the Company s consolidated financial statements also include the financial results of ChipMOS Far East, Modern Mind and its wholly-owned subsidiary, ChipMOS Shanghai. In addition, for 2003, the Company s consolidated financial statements also include the financial results of ThaiLin (see Note 1).

Minority interests of 30.3%, 29.66% and 29.66% in ChipMOS Taiwan in the results of operations for the years ended December 31, 2001, 2002 and 2003, respectively, and minority interests of 63.55% in ThaiLin for the year ended December 31, 2003 are presented separately in the consolidated financial statements.

*Concentration of credit risk*

Financial instruments that potentially subject the Company to a concentration of credit risk consist of cash and accounts receivable. On December 31, 2002, 76% of cash was deposited with NM Bank, which is registered in Vanuatu and was considered to be a high risk bank. On December 31, 2003, no bank accounts were held with NM Bank.

A substantial portion of revenue is made from a small number of customers on credit and generally without any collateral required.

The Company had one and two customers that had balances greater than ten percent of total notes and accounts receivable as of December 31, 2003 and 2002, respectively:

	<b>December 31,</b>	
	<b>2002</b>	<b>2003</b>
<i>Related parties (Note 20)</i>		
MVI	45%	0.5%
Ultima Electronics Corp. (Ultima)	20%	9%
ProMOS Technologies Inc. (ProMOS)	0%	36%

Credit evaluation of each customer is performed and reserves for potential credit losses are maintained. Losses from bad debts, in the aggregate, have historically not exceeded management s expectations.

*Use of estimates*

The preparation of consolidated financial statements requires management to make estimates and judgments that affect the recorded amounts of assets, liabilities, revenue and expenses of the Company. The Company continually evaluates these estimates, including those related to allowances for doubtful amounts, inventories, useful lives of properties, income tax valuation allowances, pension plans and the fair value of financial instruments. The Company bases its estimates on historical experience and other assumptions, which it believes to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions and conditions.

F-11



**Table of Contents**

**2. SIGNIFICANT ACCOUNTING POLICIES (continued)**

*Cash equivalents*

Commercial papers acquired under resale agreements with original maturity dates of less than three months are classified as cash equivalents.

*Short-term investments*

Short-term investments are stated at the lower of cost or market value. An allowance for losses is provided when the carrying value of the investments exceeds the total market value with the related provision for losses charged to income for the current year. Any recovery of the market value to the extent of the original carrying value is recognized as income.

Costs of investments sold are determined using the weighted-average method.

*Allowance for doubtful receivables*

The allowance for doubtful receivables reflects estimates of the expected amount of the receivables that the Company will not be able to collect. The Company first examines the available information regarding any customer that the Company has reason to believe may have an inability to meet its financial obligations. For these customers, the Company uses its judgment, based on the available facts and circumstances, and records a specific allowance for that customer against amounts due to reduce the receivable to the amount that is expected to be collected. These specific allowances are reevaluated and adjusted as additional information is received. Secondly, for all other customers, the Company maintains an allowance based on a range of percentages applied to aging categories. These percentages are based on historical collection and write-off experience. Additional allowances may be required in the future if the financial condition of our customers or general economic conditions deteriorate, and this additional allowance would reduce the Company's net income.

*Allowances for sales returns and discounts*

Allowances for sales returns and discounts are provided based on the sales returns from the past experience; such provisions are deducted from sales and the related costs of products are deducted from cost of products sold.

*Inventories*

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Inventories are stated at the lower of standard cost (which approximates actual weighted average cost) or market value. Unbilled processing charges incurred are included in finished goods and work in progress and are stated at actual cost. Market value represents replacement cost for raw materials and net realizable value for finished goods and work in progress.

### *Long-term investments*

Investments in shares of stock of companies wherein the Company exercises significant influence on their operating or financial decisions are accounted for using the equity method. Under the equity method, the investments are initially carried at cost and subsequently adjusted for the proportionate equity of the Company in the net income or net loss of the investees.

F-12

**Table of Contents**

**2. SIGNIFICANT ACCOUNTING POLICIES (continued)**

The Company will discontinue its recognition of its equity in the net loss of the investees when the carrying value of the investment (including advances) is reduced to zero. However, in cases where the Company guarantees the obligations or is committed to provide further financial support to an investee, or if the investee's losses are temporary and evidence sufficiently shows imminent return to profitability in the foreseeable future, then, the Company continues to recognize its share in the net loss of the investees. (The resulting credit balances of the long-term investments are presented as part of other receivables from related parties.)

Translation adjustments resulting from the process of translating the investees' financial statements into the functional currency of the Company are recorded as cumulative translation adjustments in the statement of changes in shareholders' equity.

Gains or losses on transactions with investees wherein the Company owns at least 20% of the outstanding common stock but less than a controlling interest are deferred in proportion to the ownership percentage until realized through a subsequent transaction with a third party. The entire amount of gains or losses on sales to majority-owned subsidiaries is deferred until such gains or losses are realized through the subsequent sale of the related products to third parties.

Other stock investments (listed stocks or stocks traded over the counter) are accounted for using the cost method. These investments are stated at cost less temporary declines in market value, and a credit is made to an allowance for declines in market value with a corresponding debit to shareholders' equity. The allowance is then reduced for any subsequent recovery of the market value to the extent of the balance of the allowance. However, if the decline in market value is considered irrecoverable, the decline in market value is recorded as a charge to income.

Cash dividends are recognized as income in the year received but are accounted for as a reduction in the carrying value of the long-term investments if the dividends are received in the same year that the related investments are acquired. Stock dividends are recognized only as an increase in the number of shares held on the ex-dividend date.

The costs of investments sold are determined using the weighted average method.

*Property, plant and equipment and employee dormitory buildings*

Property, plant and equipment and employee dormitory buildings (presented as part of Other Assets) are stated at cost less accumulated depreciation. Major additions, renewals and improvements are capitalized while maintenance and repairs are expensed currently.

The initial estimate of the service lives of the property, plant and equipment is as follows: machinery and equipment, 1 to 5 years; buildings and auxiliary equipment, 1 to 54 years; furniture and fixtures, 1 to 5 years; tooling, 1 to 2 years; transportation equipment, 5 years; and leasehold improvements, 1 to 2 years. The foregoing service lives plus one year to represent the estimated salvage value are used to depreciate the property, plant and equipment using the straight-line method. The carrying value of property, plant and equipment, which were fully depreciated using the foregoing service lives, but are still being used by the Company are depreciated over their new estimated remaining service lives.

Upon sale or disposal of items of properties, the related cost and accumulated depreciation are removed from the accounts, and any gain or loss is credited or charged to current income.

F-13

## **Table of Contents**

### **2. SIGNIFICANT ACCOUNTING POLICIES (continued)**

#### *Intangible assets*

Intangible assets are amortized using the straight-line method over the following periods: goodwill, 5 years; technology know-how, 5 years; technology license fee, 5 years; software, 2 to 4 years; bond issuance cost, using the average method and land use right, over the period of the right.

#### *Goodwill*

Goodwill arising on consolidation represents the excess of the cost of acquisition over the group's interest in the fair value of the identifiable assets and liabilities of a subsidiary, associate or jointly controlled entity at the date of acquisition. Goodwill is recognised as an asset and amortised on a straight-line basis over its useful economic life.

Goodwill arising on the acquisition of an associate or a jointly controlled entity is included within the carrying amount of the associate or jointly controlled entity. Goodwill arising on the acquisition of subsidiaries is presented separately in the balance sheet.

#### *Revenue recognition*

Revenue from testing and assembly services is generally recognized upon shipment of tested and assembled semiconductors to locations designated by customers, including the Company's internal warehouse for customers using the Company's warehousing services. Revenue from product sales is recognized when title of products and risks of ownership are transferred to customers, generally upon shipment of the products.

The Company does not provide warranties to customers except in cases of defects in the assembly services provided and deficiencies in testing services provided. An appropriate sales allowance is recognized in the period during which the sale is recognized, and is estimated based on historical experience.

The Company does not take ownership of: (1) bare semiconductor wafers received from customers that it assembles into finished semiconductors, and (2) assembled semiconductors received from the customers that it tests. The title and risk of loss remains with the customer for those bare semiconductors and/or assembled semiconductors. Accordingly, the customer-supplied semiconductor materials are not included in the consolidated financial statements.

These policies are consistent with provisions in the Staff Accounting Bulletin No. 101 issued by the United States Securities and Exchange Commission, or SEC.

*Government grant*

A government grant is recognized at its fair value and credited to the income statement. Where the grant relates to an asset, the fair value is credited to a deferred income account and is recognised as income over the periods necessary to match with the related amortization of the asset, on a systematic basis.

*Research and development costs*

Research and development costs consist of expenditures incurred during the course of planned research and investigation aimed at discovery of new knowledge which will be useful for developing new products or

## **Table of Contents**

### **2. SIGNIFICANT ACCOUNTING POLICIES (continued)**

production processes, or significantly enhancing existing products or production processes, and the implementation of such through design and, testing of product alternatives or construction of prototypes. All expenses incurred in connection with the Company's research and development activities are charged to current income.

#### *Shipping and handling expense*

The Company expenses, primarily as marketing expenses, all shipping and handling expenses incurred in delivering products to the customers designated locations. Shipping and handling expenses incurred in the years ended December 31, 2001, 2002 and 2003 were NT\$4,325 thousand, NT\$5,130 thousand and NT\$8,378 thousand (US\$246 thousand), respectively.

#### *Pension costs*

Pension costs are recorded based on actuarial calculations. Provisions for pension costs are accrued based on actuarially determined amounts which include service cost, interest, amortization of unrecognized net transition obligation and expected return on pension assets. Unrecognized net transition obligation is amortized over 15 years.

The employees of ChipMOS Shanghai are required to participate in a central pension scheme operated by the local municipal government. Contributions are made based on a percentage of the employees' salaries and bonus, if applicable, and are charged to the income statement as incurred.

#### *Income tax*

The Company adopts the inter-period income tax allocation method. Deferred income tax assets are recognized for the tax effects of deductible temporary differences, unused tax credits, and operating loss carryforwards and those of taxable temporary differences are recognized as deferred income tax liabilities. Valuation allowance is provided for deferred tax assets that are not certain to be realized. A deferred tax asset or liability is classified as current or non-current based on the classification of the related asset or liability. However, if a deferred asset or liability cannot be related to an asset or liability in the financial statements, then it is classified as current or noncurrent based on the expected reversal dates of the temporary difference.

Any tax credit arising from the purchase of machinery, equipment and technology, research and development expenditures, personnel training, investments in important technology-based enterprise is recognized by the flow-through method.

Adjustments of prior years' tax liabilities are added to or deducted from the current year's tax provision.

Income taxes (10%) on unappropriated earnings generated by ChipMOS Taiwan and ThaiLin are recorded as an expense in the year when the stockholders have effectively resolved that earnings shall be retained.

*Advertising costs*

Advertising costs included in sales and marketing expenses are expensed when incurred.



## **Table of Contents**

### **2. SIGNIFICANT ACCOUNTING POLICIES (continued)**

#### *Derivative financial instruments*

Foreign currency forward exchange contracts (forward contracts), entered into for purposes other than trading, are recorded as follows: the differences in the New Taiwan dollar amounts translated using the spot rates as of the contract date and the amounts translated using the contracted forward rates are amortized over the terms of the forward contract using the straight-line method. At the balance sheet dates, the receivables or payables arising from forward contracts are restated using the prevailing spot rates and the resulting differences are recognized in income. Also, the receivables and payables related to the forward contract are netted and the resulting net amount is presented as either an asset or liability.

The aggregate amount of the foreign currency to be acquired or sold under European option contracts, entered into as hedge of anticipated transactions, is not recorded as an asset or a liability. The amounts received on options written and the amounts paid on options purchased are amortized using the straight-line method over the term of the contract. The gains arising from the exercise of the options or the losses arising from options not exercised are recognized as adjustments to the carrying values when the hedged transaction occurs.

#### *Foreign-currency transactions*

Foreign-currency transactions, except for derivative financial instruments, are recorded in New Taiwan dollars at the rates of exchange in effect when the transactions occur. Gains or losses resulting from the application of different foreign exchange rates when cash in foreign currency is converted into New Taiwan dollars, or when foreign-currency receivables or payables are settled, are credited or charged to income in the year of conversion or settlement. On the balance sheet dates, the balances of foreign-currency assets and liabilities are restated at the prevailing exchange rates and the resulting differences are charged to current income except those foreign currency denominated investments in shares of stock where such differences are accounted for as translation adjustments under stockholders' equity. ROC Financial Accounting Standards (FAS) No. 14, Accounting for Foreign-Currency Transactions, applies to foreign operations, with the local currency of each foreign subsidiary as its functional currency. The financial statements of foreign subsidiaries are translated into New Taiwan dollars at the following exchange rates: assets and liabilities current rate; shareholders' equity historical rates; income and expenses weighted-average rate during the year. The resulting translation adjustment is recorded as a separate component of shareholders' equity.

#### *Earnings per share*

Earnings per share is calculated by dividing net income by the weighted-average number of shares outstanding in each period, adjusted retroactively for stock dividends and stock bonuses issued subsequently.

#### *Stock based compensation*

Employee stock-based compensation has been accounted for under the intrinsic value based method.



**Table of Contents****3. TRANSLATION INTO U.S. DOLLAR AMOUNTS**

The Company maintains its accounts and expresses its consolidated financial statements in New Taiwan dollars. For convenience purposes, U.S. dollar amounts presented in the accompanying consolidated financial statements have been translated from New Taiwan dollars at the noon buying rate in the City of New York cable transfers in New Taiwan dollars as certified for customers purposes by the Federal Reserve Bank of New York as of December 31, 2003, which was NT\$33.99 to US\$1.00. These convenience translations should not be construed as representations that the New Taiwan dollar amounts have been, or could in the future be, converted into U.S. dollars at this or any other rate of exchange.

**4. SHORT-TERM INVESTMENTS**

	December 31,		
	2002	2003	
	NT\$	NT\$ (in thousands)	US\$
Stock	242,416	493,994	14,534
Open-ended funds	801,120	333,921	9,824
Corporate bonds		33,970	999
Allowance for loss on short-term investments	(168,604)	(197,634)	(5,814)
	<u>874,932</u>	<u>664,251</u>	<u>19,543</u>
Market value	<u>874,932</u>	<u>664,251</u>	<u>19,543</u>

The market value of open-ended funds is based on the market price at year-end. The investment in corporate bonds is in Kolin Euro Convertible bonds with a par value of US\$1,000 thousand (NT\$33,990 thousand).

ChipMOS Taiwan acquired shares of common stock of MVI in 2002 and ProMOS in 2003. In 2003, ChipMOS Taiwan changed its intention of holding shares of Ultima from long-term to short-term. The investment in Ultima was reclassified from long-term investments to short-term investments (Note 9). ChipMOS Taiwan disposed of 7,390 thousand shares of Ultima. See Note 20 Related Party Transactions.

The provision for the allowance for market price decline on the common stock at the year end was NT\$197,634 thousand (2002: NT\$168,604 thousand).

**5. ALLOWANCE FOR DOUBTFUL RECEIVABLES AND SALES RETURN ALLOWANCES**

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

The changes in the allowances are summarized as follows:

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$ (in thousands)	NT\$	US\$
Balance, beginning of year	71,000	30,000	44,856	1,320
Additions		25,821	52,432	1,542
Reversals	(38,835)			
Write offs	(2,165)	(10,965)		
Balance, end of year	30,000	44,856	97,288	2,862

F-17

**Table of Contents****6. OTHER RECEIVABLES THIRD PARTIES**

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$
	(in thousands)		
Sales proceeds receivable from sales of short term investments		777,896	22,886
Others	92,277	88,686	2,609
	<u>92,277</u>	<u>866,582</u>	<u>25,495</u>

**7. INVENTORIES NET**

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$
	(in thousands)		
Finished goods	45,452	5,829	171
Work in process	73,076	148,636	4,373
Raw materials	134,573	222,577	6,548
	<u>253,101</u>	<u>377,042</u>	<u>11,092</u>
Less allowance for losses	(86,608)	(41,546)	(1,222)
	<u>166,493</u>	<u>335,496</u>	<u>9,870</u>

The changes in the inventory valuation allowances are summarized as follows:

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
	(in thousands)			
Balance, beginning of year	101,337	100,933	86,608	2,548
Reversal	(404)	(14,325)	(45,062)	(1,326)
	<u>100,933</u>	<u>86,608</u>	<u>41,546</u>	<u>1,222</u>

**8. PREPAID EXPENSES AND OTHER CURRENT ASSETS**

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$
	(in thousands)		
Prepayment to Best Home Corp. Ltd. (Best Home)	216,000		
Refundable deposits		340,100	10,006
Others	7,209	82,067	2,414
	<u>223,209</u>	<u>422,167</u>	<u>12,420</u>

F-18

**Table of Contents****9. LONG-TERM INVESTMENTS**

	December 31,				
	2002		2003		
	Carrying Value	% of Ownership	Carrying value		% of Ownership
	NT\$		NT\$ (in thousands)	US\$	
Equity method:					
PlusMOS	51,564	25	83,358	2,452	25
Chantek	117,314	34	80,696	2,374	34
ThaiLin	666,039	42			
AMCT			28,272	832	31
Cost method:					
Ultima, listed stock with market value of NT\$331,016 thousand in 2002	218,099	8			
Best Home	89,850	19	89,850	2,643	19
Sun Fund Securities Ltd. (Sun Fund)	299,000	17	299,000	8,797	17
Vigour Technology Corp.			41,336	1,216	4
CDIB High Tech Investment Inc.			18,000	530	2
	<u>1,441,866</u>		<u>640,512</u>	<u>18,844</u>	

The equity in net income or loss of investee companies for the year ended December 31, 2001, 2002 and 2003 were as follows:

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$ (in thousands)	NT\$	US\$
PlusMOS	(75,035)	(1,712)	32,386	953
Chantek		(90,921)	(36,618)	(1,077)
ThaiLin		(2,368)		
AMCT			(4,752)	(140)
	<u>(75,035)</u>	<u>(95,001)</u>	<u>(8,984)</u>	<u>(264)</u>

The foregoing equity in net income or loss is based on audited financial statements.

The summarized financial information for PlusMOS, Chantek, ThaiLin and AMCT is as follows:

	December 31,		
	2002	2003	
	NT\$	NT\$ (in thousands)	US\$
PlusMOS			
Current assets	526,106	496,625	14,611
Non-current assets	176,403	125,405	3,689
Current liabilities	492,681	282,689	8,317
Non-current liabilities	3,408	5,911	174

F-19



**Table of Contents****9. LONG-TERM INVESTMENTS (continued)**

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$
	(in thousands)		
<b>Chantek</b>			
Current assets	393,123	486,134	14,302
Non-current assets	1,115,699	1,020,037	30,010
Current liabilities	113,776	865,308	25,458
Non-current liabilities	909,183	287,963	8,472

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$
	(in thousands)		
<b>ThaiLin</b>			
Current assets	1,265,308		
Non-current assets	1,852,366		
Current liabilities	229,448		
Non-current liabilities	1,209,508		

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$
	(in thousands)		
<b>AMCT</b>			
Current assets		42,165	1,241
Non-current assets		91,007	2,677
Current liabilities		49,928	1,469
Non-current liabilities		2,016	59

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$ (in thousands)	NT\$	US\$
PlusMOS				
Net revenue	1,096,494	1,900,315	2,089,052	61,461
Cost of revenue	1,304,221	1,801,160	1,799,229	52,934
Gross profit	(207,727)	99,155	289,823	8,527
Net profit/(loss)	(300,136)	(6,852)	129,546	3,811

F-20

**Table of Contents****9. LONG-TERM INVESTMENTS (continued)**

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
	(in thousands)			
<b>Chantek</b>				
Net revenue		594,338	882,468	25,963
Cost of revenue		765,679	956,362	28,137
Gross loss		(171,341)	(73,894)	(2,174)
Net loss		(1,159,989)	(132,963)	(3,912)

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
	(in thousands)			
<b>ThaiLin</b>				
Net revenue		721,205		
Cost of revenue		891,069		
Gross loss		(169,864)		
Net loss		(499,368)		

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
	(in thousands)			
<b>AMCT</b>				
Net revenue			104,409	3,072
Cost of revenue			115,835	3,408
Gross loss			(11,426)	(336)
Net loss			(16,466)	(484)



Certain changes in the shareholders' equity of investee companies result in adjustments in the equity according to its ownership to the respective accounts, which in 2002, increased capital reserve and treasury stock by NT\$1,057 thousand and NT\$598 thousand and decreased unappropriated earnings by NT\$7,210 thousand; as well as in 2003 decreased unappropriated earnings by NT\$593 thousand and increased capital surplus by NT\$12,008 thousand.

In 2003, the Company disposed of 7,390 thousand shares of Ultima. The Company's investment in Ultima was reclassified from long-term investments to short-term investments (Note 4), which were revalued at lower of cost or market value at transferal.

On December 1, 2003, ThaiLin became a consolidated subsidiary of ChipMOS Taiwan.

**Table of Contents****10. PROPERTY, PLANT AND EQUIPMENT NET**

Accumulated depreciation consists of the following:

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$
		(in thousands)	
Buildings and auxiliary equipment	751,904	988,556	29,084
Machinery and equipment	7,372,617	10,254,015	301,677
Furniture and fixtures	157,883	194,573	5,724
Transportation equipment	6,273	14,384	423
Tools	624,025	799,975	23,536
Leasehold improvements	2,749	3,161	93
	<u>8,915,451</u>	<u>12,254,664</u>	<u>360,537</u>

As of December 31, 2003, certain of the above buildings and machinery were mortgaged as collateral for bonds and long-term loans (Notes 15 and 16).

**11. INTANGIBLE ASSETS NET**

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$
		(in thousands)	
<b>Cost</b>			
Technology know-how	750,000	750,000	22,065
Technology license fee (Note 23b)	15,888	41,890	1,232
Software	98,921	110,658	3,256
Bond issuance costs and others	46,550	57,205	1,683
Trade marks	1,430	1,430	42
Land use rights		181,348	5,335
	<u>912,789</u>	<u>1,142,531</u>	<u>33,613</u>
<b>Accumulated amortization</b>			
Technology know-how	(731,666)	(750,000)	(22,065)
Technology license fee (Note 23b)	(11,349)	(19,952)	(587)
Software	(83,582)	(94,508)	(2,780)

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Bond issuance costs and others	(34,316)	(48,885)	(1,438)
Trade marks			
Land use rights		(3,983)	(117)
	<u>(860,913)</u>	<u>(917,328)</u>	<u>(26,987)</u>
Carrying value			
Technology know-how	18,334		
Technology license fee	4,539	21,938	645
Software	15,339	16,150	476
Bond issuance costs and others	12,234	8,320	245
Trade marks	1,430	1,430	42
Land use rights		177,365	5,218
	<u>51,876</u>	<u>225,203</u>	<u>6,626</u>

F-22

**Table of Contents****11. INTANGIBLE ASSETS NET (continued)**

The amortization charge for 2003 amounted to NT\$56,469 thousand (2002: NT\$129,962 thousand, 2001: NT\$189,792 thousand). The weighted average amortization period is 9 years (2002: 7 years). The estimated aggregate amortization charge for the five years ending December 31, 2004, 2005, 2006, 2007 and 2008 amounts to approximately NT\$32,000 thousand, NT\$18,000 thousand, NT\$9,000 thousand, NT\$4,000 thousand and NT\$4,000 thousand, respectively.

Pursuant to a Joint Venture Agreement entered into between MVI and SPIL on July 28, 1997, MVI and SPIL contributed, as payment for their subscription to shares of stock of ChipMOS Taiwan, technologies related to testing and assembly of semiconductors at an agreed valuation of NT\$750,000 thousand.

A government grant of NT\$178,262 thousand received during the year is included in the total cost of land use rights.

**12. BANK LOANS**

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$
	(in thousands)		
Unsecured loans:			
Working capital loans:			
NT\$755,000 thousand, repayable by March 2004, annual interest at 1.65%-3%		755,000	22,213
NT\$1,390,000 thousand, repayable by March 2003, annual interest at 2.5%-3%	1,390,000		
NT\$130,000 thousand, repayable by February 2004, annual interest at 1.4%-1.5%		130,000	3,825
US\$1,200 thousand, repayable by January 2004, annual interest at bank's cost of funds plus 1.5%		40,764	1,199
RMB20,000 thousand, repayable by June 2004, annual interest at 4.536%		81,964	2,411
Loans for imports of machinery:			
EUR\$72 thousand and JPY1,749,463 thousand repayable by September 2004, annual interest at 0.57%-2.87%		559,045	16,447
JPY2,193,280 thousand, repayable by June 2003, annual interest at 0.61%-1.75%	642,631		
	2,032,631	1,566,773	46,095

Unused credit lines of short-term bank loans as of December 31, 2003 aggregated approximately NT\$1,977,429 thousand, which will expire from February 2004 to December 2004.

The weighted average interest rate for bank loans is 1.64% per annum in 2003 (2002: 1.70% per annum).





**Table of Contents****13. NOTES PAYABLE**

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$
		(in thousands)	
Convertible bonds		267,611	7,873
Promissory loan note	575,850		
Commercial paper	160,000		
Discount on par value	(573)		
	735,277	267,611	7,873

ThaiLin issued convertible bonds on July 5, 2001 with a face value of NT\$800,000 thousand. These bonds are due on July 4, 2006. During 2003, ThaiLin redeemed NT\$312,800 thousand and NT\$251,800 thousand were exercised. The interest rates applicable are as follows:

Redemption within two to three years: 4.75% per annum

Redemption within three to four years: 5.25% per annum

Redemption after four years until 40 days before the due date: nil

The commercial paper's actual interest rate is 1.8%-2.22% per annum in 2002, and it expired during the year.

The promissory loan note was issued by Modern Mind to Jesper with an interest rate of 0.5% per annum and maturity date of August 3, 2004. This debt was assigned by Jesper to MVI, ChipMOS Bermuda's ultimate holding company, on May 29, 2003, then assigned to Jesper and reassigned to ChipMOS Taiwan on June 25, 2003, and then assigned to ChipMOS Bermuda on December 17, 2003.

**14. ACCRUED EXPENSES AND OTHER CURRENT LIABILITIES**

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$
		(in thousands)	
Accrued bonus	98,428	233,637	6,874

Others	366,696	204,342	6,012
	<u>          </u>	<u>          </u>	<u>          </u>
	465,124	437,979	12,886
	<u>          </u>	<u>          </u>	<u>          </u>

**15. LONG-TERM BONDS PAYABLE**

On January 26, 2000, ChipMOS Taiwan issued secured bonds with face value of NT\$1,200,000 thousand. Those bonds are due on January 26, 2005 and bear interest at 5.95% per annum that is payable annually.

Under the guaranteed facility agreement for the long-term bonds, ChipMOS Taiwan is required to:

- (1) Ensure that MVI and SPIL maintain a percentage of direct or indirect ownership in ChipMOS Taiwan of at least 28.8% and 18.0%, respectively. In addition, ChipMOS Taiwan must notify the banks in writing and get approval in advance in cases where additional shares are issued in connection with an initial public offering of its shares, if either MVI's or SPIL's ownership will drop below the respective percentage level as a result of the initial public offering.
  
- (2) Maintain certain financial ratios.

**Table of Contents****15. LONG-TERM BONDS PAYABLE (continued)**

ChipMOS Taiwan was in compliance with the financial ratio requirements as of December 31, 2003.

As of December 31, 2003, certain buildings with an aggregate net book value of NT\$497,894 thousand were mortgaged as collateral for the long-term bonds.

**16. LONG-TERM LOANS**

	December 31,		
	2002	2003	
	NT\$	NT\$ (in thousands)	US\$
Bank loans collateralized by equipment and buildings, repayable semi-annually from November 2000 to December 2004, interest at floating rate (5.425% and 5.375% as of December 31, 2002 and 2003, respectively)	622,500	276,500	8,135
Bank loans collateralized by equipment, repayable quarterly from January 2000 to January 2004, interest at floating rate (5.655% as of December 31, 2003)		8,750	257
Bank loans collateralized by equipment, repayable quarterly from April 2001 to January 2006, interest at floating rate (5.655% as of December 31, 2003)		31,500	927
Syndicated bank loans collateralized by equipment, repayable quarterly from March 2004 to September 2008, interest at floating rate (3.875% as of December 31, 2003)		80,000	2,354
Syndicated bank loans collateralized by equipment, repayable semi-annually from September 2004 to September 2007, interest at floating rate (4.75% and 4.275% as of December 31, 2002 and 2003, respectively)	2,000,000	2,000,000	58,841
Syndicated bank loans, repayable semi-annually from September 2004 to September 2007, interest at floating rate (4.875% and 4.40% as of December 31, 2002 and 2003, respectively)	500,000	500,000	14,710
Research and development subsidy loan, collateralized by time deposits in amounts of NT\$42,450 thousand, repayable quarterly from July 2003 to September 2006, with zero interest rate	41,095	34,962	1,028
	<u>3,163,595</u>	<u>2,931,712</u>	<u>86,252</u>
Less current portion	(352,160)	(692,840)	(20,383)
	<u>2,811,435</u>	<u>2,238,872</u>	<u>65,869</u>

As of December 31, 2003, there was no unused credit line for the research and development subsidy loan. The line expires upon completion of the research project. Also, according to the agreement signed by ChipMOS Taiwan with the Industrial Development Bureau (IDB) in respect to the research and development subsidy loan, ChipMOS Taiwan is obligated to pay IDB a certain percentage (2%) of sales of the products developed for 3 years after completing the project.

Unused credit lines of long term bank loans as of December 31, 2003 aggregated approximately NT\$2,920,000 thousand.

F-25

**Table of Contents****16. LONG-TERM LOANS (continued)**

Under the syndicated bank loan facility agreement, ChipMOS Taiwan is required to:

- (1) Ensure that ChipMOS Bermuda and SPIL maintain a percentage of direct ownership in ChipMOS Taiwan of at least 50% of outstanding shares and have control over its operation.
- (2) Maintain certain financial ratios.

As of December 31, 2003, ChipMOS Bermuda and SPIL have 99.07% of direct ownership in ChipMOS Taiwan and have control over its operations.

ChipMOS Taiwan was in compliance with the financial ratio requirements as of December 31, 2003.

As of December 31, 2003, certain land and buildings and machinery with an aggregate net book value of NT\$1,361,241 thousand and NT\$3,617,813 thousand, respectively, and time deposits in an aggregate amount of NT\$42,450 thousand were mortgaged as collateral for the long-term loans.

Future minimum principal payments under the long-term loans as of December 31, 2003 are as follows:

	<b>Amount</b>	
	<b>NT\$</b>	<b>US\$</b>
	<b>(in thousands)</b>	
2004	692,840	20,383
2005	756,641	22,261
2006	739,981	21,771
2007	730,250	21,484
2008	12,000	353
	<b>2,931,712</b>	<b>86,252</b>

**17. PENSION PLAN**

ChipMOS Taiwan and ThaiLin have established defined benefit pension plans for all of their regular employees, which provide benefits based on the length of service and the average monthly salary for the six months period immediately before retirement.

ChipMOS Taiwan and ThaiLin make monthly contributions, equal to 2% of salaries and wages, to a pension fund that is administered by a pension fund monitoring committee and deposited in its name in the Central Trust of China in the Republic of China.

The employees of ChipMOS Shanghai are required to participate in a central pension scheme operated by the local municipal government. Contributions are made based on a percentage of the employees' salaries and bonus, if applicable, and are charged to the income statement as incurred.

**Table of Contents****17. PENSION PLAN (continued)**

Certain pension information is as follows:

## a. Net pension cost

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
	(in thousands)			
Service cost	23,363	21,323	36,130	1,063
Interest cost	3,384	3,529	5,039	148
Projected return on plan assets	(2,496)	(2,802)	(2,990)	(88)
Amortization	98	27	53	2
Curtailement gain (loss)	(6,902)		662	19
	17,447	22,077	38,894	1,144

## b. Reconciliation of the fund status of the plan and accrued pension cost

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
	(in thousands)			
Actuarial present value of benefit obligations				
Vested benefit obligation			(290)	(9)
Nonvested benefit obligation	(25,932)	(55,647)	(92,726)	(2,728)
Accumulated benefit obligation	(25,932)	(55,647)	(93,016)	(2,737)
Additional benefits based on future salaries	(44,640)	(66,501)	(94,641)	(2,784)
Projected benefit obligation	(70,572)	(122,148)	(187,657)	(5,521)
Plan assets at fair value	49,642	66,005	98,063	2,885
Projected benefit obligation in excess of plan assets	(20,930)	(56,143)	(89,594)	(2,636)
Unrecognized net transition obligation	538	511	769	23
Unrecognized net loss	1,186	29,438	32,464	955
Accrued pension cost	(19,206)	(26,194)	(56,361)	(1,658)

c. Actuarial assumptions

	Year Ended December 31,			
	2001	2002	2003	
Discount rate used in determining present values	5.00%	3.50%	3.25%	3.25%
Future salary increase rate	4.50%	3.50%	3.25%	3.25%
Expected rate of return on plan assets	5.00%	3.50%	3.25%	3.25%

d. Changes in pension fund

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
	(in thousands)			
Company contributions	14,886	15,332	20,655	608
Payment of benefits				



**Table of Contents****18. SHAREHOLDERS EQUITY**

Under ROC Company Law, the capital surplus can only be used to offset deficits, except that capital surplus generated from (1) donations (donated capital) or (2) the excess of the issue price over the par value of capital stock (including stocks issued for new capital and mergers, and the purchase of treasury stock) can be transferred to capital as stock dividends when no deficit remains and shareholders approve such distribution.

ChipMOS Taiwan's Articles of Incorporation provide that the following may be appropriated from the accumulated net income after deducting any previously accumulated deficit and 10% legal reserve, subject to shareholders' approval: (a) 10% as bonus to employees, (b) not more than 2% as remuneration to directors and supervisors, (c) a special reserve, if deemed necessary, and (d) dividends to shareholders.

These appropriations and the disposition of the remaining net income shall be resolved by the shareholders in the following year and given effect in the financial statements of that year.

Under ROC Company Law, the aforementioned appropriation for legal reserve shall be made until the reserve equals the aggregate par value of ChipMOS Taiwan's outstanding capital stock. The reserve can only be used to offset a deficit, or when its balance has reached 50% of the aggregate par value of the outstanding capital stock of ChipMOS Taiwan and no deficit remains, up to 50% thereof can be distributed as stock dividends by shareholders' resolution.

In December 2002, ChipMOS Bermuda purchased employees' shares in ChipMOS Taiwan which were in turn, exchanged for shares in ChipMOS Bermuda.

*Stock Options*

The Share Option plan provides that the directors, officers, employees and consultants of ChipMOS Bermuda and its affiliates may be granted options to purchase common shares of ChipMOS Bermuda at specified exercise prices.

The following table summarizes information about stock options outstanding at December 31, 2003.

Name	Date of grant	Exercise Price	Number outstanding	Market Price at grant	Market Price at Year End	Number Exercisable on or after	Number Exercisable on or after	Number Exercisable on or after	Number Exercisable on or after
020403ESOP	April 3, 2002	US\$ 4.0375	2,005,850	US\$ 4.75	US\$ 9.39	254,262 April 3, 2003	583,862 April 3, 2004	583,863 April 3, 2005	583,863 April 3, 2006

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

030613ESOP	June 13, 2003	0.7650	2,445,650	1.09	9.39	538,362 December 13, 2003	635,762 December 13, 2004	635,763 December 13, 2005	635,763 December 13, 2006
031001ESOP	October 1, 2003	1.7425	813,000	2.05	9.39	203,250 October 1, 2004	203,250 October 1, 2005	203,250 October 1, 2006	203,250 October 1, 2007
031103ESOP	November 3, 2003	1.7425	39,600	3.70	9.39	9,900 November 3, 2004	9,900 November 3, 2005	9,900 November 3, 2006	9,900 November 3, 2007
			5,304,100						

The Company has applied APB Opinion No. 25, Accounting for Stock Issued to Employees, and related interpretations, for stock options issued to employees in accounting for its stock option plans. The stock options issued during 2003 had a market price of US\$1.09, US\$2.05 and US\$3.7, respectively, at the date of grant. Therefore, NT\$53,142 thousand (US\$1,563 thousand) of compensation expense has been recognized with

**Table of Contents****18. SHAREHOLDERS EQUITY (continued)**

NT\$27,985 thousand (US\$823 thousand) (2002: NT\$25,157 thousand) being accounted for through the statement of operations in fiscal year 2003. The Company issued 3,405,775 stock options in 2002 and 3,464,600 stock options in 2003 to its employees. In 2002, 273,500 and in 2003, 334,600 were forfeited and in 2002, 531,175 and in 2003, 427,000 were exercised, leaving 5,304,100 (2002: 2,601,100) stock options outstanding at December 31, 2003.

**19. INCOME TAX EXPENSE (BENEFIT)**

- a. A reconciliation of income tax expense current before tax credits and income tax expense on income before income tax at statutory rate is shown below:

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
			(in thousands)	
Tax on pretax income at 0%				
Tax on pretax income at ROC statutory rate	(369,181)	(293,729)	169,056	4,974
Tax paid by subsidiary	73	54		
Tax effect:				
Tax exempt income			24,958	734
Permanent differences	(39,829)	58,879	(17,062)	(502)
Temporary differences	(102,958)	(72,383)	(9,407)	(277)
<b>Income tax expense (benefit) current before tax credits</b>	<b>(511,895)</b>	<b>(307,179)</b>	<b>167,545</b>	<b>4,929</b>

The ROC statutory rates for 2001, 2002 and 2003 were 25%.

- b. Income tax expense (benefit) consists of:

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
			(in thousands)	
<b>Income tax expense (benefit) current before tax credits</b>	<b>(511,895)</b>	<b>(307,179)</b>	<b>167,545</b>	<b>4,929</b>
Additional 10% on the unappropriated earnings	114,459			
<b>Income tax credits</b>	<b>(57,230)</b>		<b>(187,700)</b>	<b>(5,522)</b>

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Separate and foreign income tax		4,217	1,309	39
	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
Income tax for the current year	(454,666)	(302,962)	(18,846)	(554)
Net change in deferred income tax assets (liabilities) for the year				
Tax credits	(434,872)	119,312	44,082	1,297
Temporary differences	170,078	78,155	8,126	239
Valuation allowances	772,006	181,393	(65,772)	(1,935)
Loss carry forwards		7,055	40	1
Adjustment of prior years taxes	(20,133)	14,963	3,364	99
	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
Income tax expense (benefit)	32,413	97,916	(29,006)	(853)
	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>

F-29

**Table of Contents****19. INCOME TAX EXPENSE (BENEFIT) (continued)**

Since the Company is an exempted company incorporated in Bermuda, tax on pretax income is calculated at 0% for each year.

ChipMOS Taiwan, under Science Park Regulations, is entitled to an exemption from ROC income taxes for a period of four years on income attributable to the expansion of its production capacity as a result of purchases of new equipment funded by capital increases. Such tax exemption will expire on December 31, 2005.

In accordance with the relevant tax rules and regulations in the PRC, ChipMOS Shanghai enjoys income tax exemptions for the first two profitable years and 50% reductions for the following three years. Tax losses can only be carried forward for five years. The PRC statutory rates for 2002 and 2003 were 33%.

c. Deferred income tax assets and liabilities are summarized as follows:

	December 31,		
	2002	2003	
	NT\$	NT\$ (in thousands)	US\$
<b>Net current deferred income tax assets:</b>			
Unrealized foreign exchange loss	5,439	8,599	253
Unearned interest income		16,666	490
Pre-operating expenses		12,911	380
Losses carried forward		68,800	2,024
Tax credits		143,905	4,234
Loss of market price decline and obsolete and slow-moving inventories	21,652	6,385	188
Unrealized loss on sale allowances	5,721	10,387	306
Others	5,655	18,408	541
	<u>38,467</u>	<u>286,061</u>	<u>8,416</u>
Less: Valuation allowances		(19,112)	(562)
	<u>38,467</u>	<u>266,949</u>	<u>7,854</u>
<b>Net non-current deferred income tax assets (liabilities):</b>			
Tax credits for investment in machinery and equipment and R&D expenditure	839,526	647,607	19,053
Loss carry forwards	812,630	864,317	25,429
Depreciation differences	(575,608)	(590,007)	(17,358)
Unrealised impairment loss on idle fixed assets		12,586	370
Tax credits		119,920	3,528
Others	1,072	3,202	94
	<u>1,072</u>	<u>3,202</u>	<u>94</u>

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

	1,077,620	1,057,625	31,116
Less: Valuation allowances	(1,309,399)	(1,425,566)	(41,941)
	<u>(231,779)</u>	<u>(367,941)</u>	<u>(10,825)</u>

The rate at which deferred income tax components are measured was 25% as of December 31, 2001, 2002 and 2003.

**Table of Contents****19. INCOME TAX EXPENSE (BENEFIT) (continued)**

- d. The balance and year of expiry of unused investment tax credits and loss carry forwards of ChipMOS Taiwan as of December 31, 2003 are as follows:

Year of Expiry	R & D	Machinery	Loss Carry Forwards	
	Expenditures	& Equipment	NT\$	US\$
	NT\$	NT\$ (in thousands)	NT\$	US\$
2004	83,441	60,464		
2005	84,762	312,217		
2006	70,257	184,179	517,006	15,211
2007		116,112	395,164	11,626
2008			105,815	3,113
	<u>238,460</u>	<u>672,972</u>	<u>1,017,985</u>	<u>29,950</u>

The deferred tax assets related to investment tax credits on research and development expenditure and purchases of machinery and equipment and which will expire from 2004 to 2008. Under ROC tax regulations, tax credits can be utilized to reduce current income tax obligations only to the extent of 50% of such income tax obligations except in the year when such tax credit will expire, in which case, the entire amount of expiring tax credit may be utilized to reduce the current income tax obligation. However, tax credits generated in the current year have to be utilized before prior year tax credits can be utilized to reduce current year income tax obligations. The foregoing limitation on the utilization of tax credits, the expiry dates of the tax credits, the level of tax credits expected to be generated from future operations and the level of non-taxable income attributable to the four-year income tax holiday on capacity expansion led management to conclude that it is unlikely that these investment tax credits will be fully realized. Loss carry forwards can be used to deduct current income tax obligations up to the extent of taxable income and will expire after five years if not fully utilized by the Company. Accordingly, a valuation allowance on deferred tax assets is recognized as of December 31, 2002 and 2003.

- e. According to ROC tax law, ChipMOS Taiwan's and ThaiLin's unappropriated earnings generated in 1998 and thereafter are subject to a tax of 10% in the year when the shareholders resolve that such earnings shall be retained. The accumulated deficit as of December 31, 2002 and 2003 consist of:

	December 31,		
	2002	2003	
	NT\$	NT\$ (in thousands)	US\$
Before FY1998			
FY1998 and thereafter	(1,648,057)	(736,631)	(21,672)
	<u>(1,648,057)</u>	<u>(736,631)</u>	<u>(21,672)</u>

The income tax returns of ChipMOS Taiwan and ThaiLin through 2000 have been assessed by the tax authorities.





**Table of Contents****20. RELATED PARTY TRANSACTIONS**

The Company engages in business transactions with the following related parties:

- a. MVI : A major shareholder.
- b. DenMOS Technology Inc. (DenMOS) : An investee of MVI.
- c. ProMOS : An investee of MVI.
- d. SPIL: A major shareholder of ChipMOS Taiwan.
- e. ThaiLin : A 36.45% owned investee of ChipMOS Taiwan. It became a subsidiary of ChipMOS Taiwan in December 2003.
- f. Chantek : A 34% owned investee of ChipMOS Taiwan.
- g. AMCT : A 30.77% owned investee of ChipMOS Taiwan.
- h. PlusMOS : A 25% owned investee of ChipMOS Taiwan.
- i. Best Home : A 19% owned investee of ChipMOS Taiwan; ChipMOS Taiwan is a major shareholder.
- j. Sun Fund : A 17% owned investee of ChipMOS Taiwan; ChipMOS Taiwan is a major shareholder.
- k. Ultima : A 4% owned investee of ChipMOS Taiwan; the chairman and president of ChipMOS Taiwan was a member of board of directors of Ultima (resigned in June 2003).
- l. Jesper : The legal owner of the stock in Modern Mind Technology.
- m. Prudent Holdings Group Ltd (Prudent) : A 4% shareholder.
- n. Chantek International Investment Ltd. (Chantek International) : A 100% subsidiary of Chantek; the chairman and president of ChipMOS Taiwan is a member of the board of directors of Chantek International.

The significant transactions with the aforementioned parties, other than those disclosed in other notes, are summarized as follows:

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
	(in thousands)			
<i>During the year</i>				
Revenue				
ProMOS	5,002		1,748,326	51,436
MVI	2,495,046	2,285,348	1,680,986	49,455
Ultima	1,163,383	1,218,265	1,126,689	33,148
DenMOS		152,761	496,480	14,607
PlusMOS	55,548	9,010	19,642	578
Chantek			469	14
SPIL			345	10
AMCT			5	
	<u>3,718,979</u>	<u>3,665,384</u>	<u>5,072,942</u>	<u>149,248</u>
Rental revenue				
MVI	29,717	8,800	4,800	141
DenMOS		693	922	27
ThaiLin		2,212		
	<u>29,717</u>	<u>11,705</u>	<u>5,722</u>	<u>168</u>



F-32

**Table of Contents****20. RELATED PARTY TRANSACTIONS (continued)**

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$ (in thousands)	NT\$	US\$
<i>During the year</i>				
Purchases of materials				
AMCT			4,758	140
PlusMOS			522	15
MVI			12	
			5,292	155
Manufacturing expenses:				
Subcontract expenses				
SPIL	3,886		101,847	2,996
Chantek	2,950	2,719	230	7
	6,836	2,719	102,077	3,003
Operating expenses:				
Administrative expenses MVI	4,550	4,550	4,387	129
Rental expenses				
Chantek			7,699	227
MVI	2,490	2,811	2,586	76
	2,490	2,811	10,285	303
R&D materials				
PlusMOS	29,888			
MVI	86			
	29,974			
Other expenses				
Jesper			4,260	125
Other revenue				
DenMos			2,647	78
Chantek			900	26
PlusMOS			27	1
			3,574	105
Fee for shareholders' services				
Sun Fund			2,700	79



F-33

**Table of Contents****20. RELATED PARTY TRANSACTIONS (continued)**

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$
(in thousands)			
<i>At the end of year</i>			
Short-term investments			
Stock			
MVI	242,416	242,416	7,132
ProMOS		105,015	3,090
Ultima		131,379	3,865
Less: Allowance for loss on short-term investments	(168,604)	(193,511)	(5,693)
	<u>73,812</u>	<u>285,299</u>	<u>8,394</u>
Accounts receivable			
ProMOS		959,561	28,231
Ultima	331,940	251,069	7,387
DenMOS	23,057	123,932	3,646
MVI	759,484	13,952	410
PlusMOS	4,943	5,530	163
Chantek		830	24
SPIL		315	9
Less: Allowances for doubtful receivables	(14,949)	(12,823)	(377)
	<u>1,104,475</u>	<u>1,342,366</u>	<u>39,493</u>
Other receivables			
AMCT		28,279	832
ProMOS		11,271	332
Chantek	356	19,693	579
ThaiLin	6,301		
MVI	4,347	424	12
DenMOS	275	375	11
Prudent		216,000	6,355
Ultima	268	104	3
Less: Allowances for doubtful receivables		(9,971)	(293)
	<u>11,547</u>	<u>266,175</u>	<u>7,831</u>
Prepaid expenses Best Home	216,000		
Accounts payable			
SPIL		4,634	136
MVI		694	21
Chantek		242	7
		<u>5,570</u>	<u>164</u>
Other payables			
MVI	1,158	730	22
PlusMOS	186	142	4

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Chantek		102	3
Sun Fund		45	1
	<u>1,344</u>	<u>1,019</u>	<u>30</u>
Promissory loan note Jesper	<u>575,850</u>		
Payable to contractors and equipment suppliers			
Chantek		714	21

F-34

**Table of Contents**

**20. RELATED PARTY TRANSACTIONS (continued)**

As of December 31, 2002, ChipMOS Taiwan provided commercial paper acquired under repurchase agreements as collateral for a loan amounting NT\$600,000 thousand (excluding the interest) obtained by Ultima (See Note 21).

The amount charged to PlusMOS for products and services is based on the market price.

In April 2003, ChipMOS Taiwan purchased from third-party bondholders NT\$570 million worth of MVI index bonds. MVI pledged approximately 52 million common shares of ProMOS as collateral for repayment of NT\$290 million worth of these index bonds. In May 2003, ChipMOS Taiwan sold NT\$110 million, NT\$90 million and NT\$80 million of the bonds to AMCT, Chantek International and PlusMOS, respectively. The interest revenue derived from these transactions amounted to NT\$6,188 thousand. In June 2003, ChipMOS Taiwan sold all the 52 million common shares of ProMOS for approximately NT\$426 million by exercising its right to sell such shares pledged as collateral for the repayment of NT\$290 million worth of index bonds. On June 16, 2003, ChipMOS Taiwan retained approximately NT\$300 million (principal amount of NT\$290 million plus interest of NT\$10 million) in satisfaction of the index bonds held, and returned the remaining amount to MVI as excess collateral realization.

In August and September, 2002, ChipMOS Taiwan entered into three inventory purchase agreements with MVI under which MVI was obligated to sell to ChipMOS Taiwan, and ChipMOS Taiwan was obligated to purchase wafers from MVI. Under these inventory purchase agreements, ChipMOS Taiwan paid MVI a total amount of NT\$2,100 million in exchange for wafers. The purchases of wafers from MVI by ChipMOS Taiwan were subsequently cancelled and a total amount of NT\$2,100 million was refunded to ChipMOS Taiwan by MVI and the inventory purchase agreements were terminated on September 26 and 30, 2002, respectively.

On August 10, 2000, ChipMOS Taiwan entered into a service agreement with MVI pursuant to which ChipMOS Taiwan is obligated to provide testing and assembly services to MVI (or its customers) whenever requested. This service agreement was amended on September 1, 2001 to change the terms of the storage services ChipMOS Taiwan provides to MVI.

In 2001, 2002 and 2003, 48%, 35% and 19%, respectively, of the Company's sales were made to MVI. In the period from July to December 2003, MVI transferred its DRAM business to ProMOS. As a result, 19% of the Company's 2003 sales were made to ProMOS. Selling prices were determined based on hourly rates and machine hours incurred during the process of testing and assembling the semiconductors. The hourly rates were determined based on negotiations, which considered anticipated capacity requirements and commitments. Payment method is by remittance. The collection term for MVI and Ultima is 90 days after month end, ProMOS is 75 days after month end, while other related parties have the normal collection terms of 60 days after month end. The selling price is the same as those to other customers.

The payment terms for purchases from related parties are the same as those from other suppliers.

In 2002, the ChipMOS Taiwan acquired a 17% ownership interest of Sun Fund from Best Home.

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

On October 11, 2002, ChipMOS Taiwan signed an agreement with Best Home for the construction of a central kitchen in Taiwan and paid NT\$216,000 thousand as an advance to Best Home for the purpose of acquiring a suitable site. Best Home did not proceed in a timely manner and on December 17, 2003, the advance was assigned to Prudent, who agreed to pay NT\$216,000 thousand back to ChipMOS Taiwan by June 30, 2004. Prudent also entered into a pledge agreement on the same day whereby the advance of NT\$216,000 thousand has been secured by Prudent's shareholding in ChipMOS Bermuda to the extent of 2,360,000 common shares in favour of ChipMOS Taiwan. As at December 31, 2003 the market value of these shares amounted to approximately NT\$753,000 thousand and as of May 20, 2004, the market value of the shares amounted to approximately NT\$631,000 thousand.

F-35



**Table of Contents**

**20. RELATED PARTY TRANSACTIONS (continued)**

ChipMOS Taiwan is also in discussions with Prudent regarding Prudent's construction of a cafeteria and dormitory for ChipMOS Taiwan. ChipMOS Taiwan may use the NT\$216,000 thousand advance to fund Prudent's activities if ChipMOS Taiwan enters into an agreement with Prudent.

In 2003, ChipMOS Taiwan purchased machinery from Chantek at a cost of NT\$10,141 thousand. The Company also sold machinery to Chantek with proceeds amounting NT\$16,781 thousand and recognized gains on disposal of properties amounting to NT\$8,848 thousand.

From time to time, SPIL provides assembly services to ChipMOS Taiwan. Often, SPIL renders these assembly services directly to customers through customer referrals from ChipMOS Taiwan. On January 1, 2001, ChipMOS Taiwan entered into a subcontracting agreement for a term of two years with SPIL, pursuant to which SPIL is obligated to provide assembly services to ChipMOS Taiwan. ChipMOS Taiwan is required to provide SPIL on a monthly basis with a rolling forecast for requested services for the following three months. The prices of these services are to be agreed upon from time to time taking into account the cost of the packaging of raw materials.

On October 15, 2003, ChipMOS Taiwan entered into a long-term agreement with DenMOS, under which ChipMOS Taiwan reserves a specified amount of its capacity for LCD and other flat-panel display driver semiconductor testing and assembly services to DenMOS and under which DenMOS guarantees to place orders in the amount of the reserved capacity for a period of 48 months. This agreement superseded a similar agreement that ChipMOS Taiwan entered into on May 25, 2002. The price for services under this agreement will be agreed upon, based on the general price list, at the time DenMOS places orders under this agreement. If ChipMOS Taiwan is unable to test and assemble the agreed number of LCD and other flat-panel display driver semiconductors, DenMOS may use a third party to cover the shortfall. However, ChipMOS Taiwan is entitled to cure any shortfall in the following month. If ChipMOS Taiwan fails to do so, ChipMOS Taiwan may be liable for damages up to the amount equal to the number of shortfall units in the given month multiplied by the average sales price per unit in that month. If DenMOS fails to place orders according to the reserved capacity, ChipMOS Taiwan is entitled to damages based on the costs for the equipment, tooling costs, costs for personnel dedicated to the provisions of capacity to such customer, and the costs for raw materials.

ChipMOS Bermuda owned 100% of the share capital in Modern Mind Technology from December 12, 2002 to December 31, 2002 at which date it was transferred to Jesper. The shares were transferred at their nominal value at both acquisition and disposal.

On July 1, 2003, ChipMOS Taiwan entered into a long-term agreement with ProMOS, under which ChipMOS Taiwan reserves a specified amount of its capacity for DRAM testing and assembly services to ProMOS and under which ProMOS guarantees to place orders in the amount of the reserved capacity through the end of 2006. The price for the services of ChipMOS Taiwan under this agreement will be agreed upon quarterly, based on the then fair market price. If ChipMOS Taiwan is unable to test and assemble the agreed number of DRAM, ProMOS may use a third party to cover the shortfall and ChipMOS Taiwan may be liable for any operation loss of ProMOS caused by such delay or any additional costs in using a third party to cover the shortfall. If ProMOS fails to place orders in the amount of the reserved capacity, ChipMOS Taiwan is entitled to damages calculated based on the difference between the value of the reserved capacity and the value of the actual used capacity; provided that the value of the capacity that has been used by ChipMOS Taiwan for other customers shall be deducted.

The Company consults its ROC counsel on certain related party transactions and obtains legal opinions, as appropriate, to ensure that such transactions do not violate relevant ROC law provisions.



**Table of Contents****21. RESTRICTED CASH AND CASH EQUIVALENTS**

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$
	(in thousands)		
Current:			
Time deposits (maturing from January to November 2004)	76,868	282,378	8,308
Non-current:			
Commercial paper acquired under repurchase agreements (matured in January 2002, and extended to April 2003 )	601,744		
	<u>678,612</u>	<u>282,378</u>	<u>8,308</u>

Time deposits are pledged as collateral for the Company's customs duties payable, letters of credit and research and development subsidy loans, and the commercial paper acquired under repurchase agreements is pledged as collateral for the guarantee provided to Ultima (See Note 20).

**22. NOTES TO THE CASH FLOW STATEMENT**

- (a) Major non-cash transaction

During the year, the Company received a land use right from the government in the People's Republic of China which had a value of NT\$178,262 thousand.

- (b) Acquisition of ThaiLin

	December 31, 2003	
	NT\$	US\$
	(in thousands)	
Net assets acquired:		
Cash and bank balances	103,454	3,044
Short term investments	272,849	8,027
Note receivable	6,084	179
Accounts receivable	238,928	7,029
Other receivable	1,207	36
Deferred income tax	15,103	444
Prepayment and other assets	29,964	882
Long term investment	59,336	1,746
Property, plant and equipment	1,718,442	50,557
Refundable deposits	14	

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Bank loan	(30,000)	(883)
Long term loan	(120,250)	(3,538)
Convertible bonds	(551,505)	(16,226)
Note payable	(30,571)	(899)
Payable to contractor	(79,448)	(2,337)
Accrued and other liabilities	(60,376)	(1,776)
Minority interests	(915,935)	(26,947)
	<u>657,296</u>	<u>19,338</u>
Satisfied by:		
Reclassification to interest in subsidiary	<u>657,296</u>	<u>19,338</u>

F-37

**Table of Contents****22. NOTES TO THE CASH FLOW STATEMENT (continued)**

An analysis of the net inflow of cash and cash equivalents in respect of the acquisition of subsidiary is as follows:-

	<b>December 31, 2003</b>	
	NT\$	US\$
	<b>(in thousands)</b>	
Cash and bank balances acquired	103,454	3,044

**23. SIGNIFICANT COMMITMENTS AND CONTINGENCIES**

- a. As of December 31, 2003, ChipMOS Taiwan leased parcels of land from the Hsinchu and Tainan Science Park (SBIP) under several agreements expiring on various dates from 2004 to 2017, with renewal options.

The future minimum lease payments under the above-mentioned leases as of December 31, 2003 are as follows:

<b>Year</b>	<b>Amount</b>	
	NT\$	US\$
	<b>(in thousands)</b>	
2004	16,203	477
2005	15,668	461
2006	15,668	461
2007	15,668	461
2008	14,198	418
Thereafter	85,664	2,520
<b>Total minimum lease payments</b>	<b>163,069</b>	<b>4,798</b>

- b. On April 20, 1999, ChipMOS Taiwan entered into a semiconductor packaging technology license agreement with TESSERA INC. Under this agreement, ChipMOS Taiwan agreed to pay a license fee of US\$500 thousand and a royalty fee at a certain percentage of the net sales of certain products. ChipMOS Taiwan paid the total license fee of US\$500 thousand (NT\$15,888 thousand) in 1999 and amortized the amount over 5 years using the straight-line method. ChipMOS Taiwan also has to pay certain additional license fees within five years if cumulative production and sales quantity of products bearing Tessera Compliant Chip packages do not meet the commitment schedule at a respective deadline as set in the agreement.
- c. ChipMOS Taiwan acquired testing and assembly technology for tape carrier packages under a licensing agreement with Sharp Corporation. The term of the agreement is for five years beginning February 10, 2000. Sharp licensed to the company tape carrier package-related technology and intellectual property rights. The company in turn pays a royalty fee to Sharp ranging from 3% to 5% of the service fee paid to the company by its customers minus the material cost incurred from providing tape carrier package-related

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

services over the licensing agreement. Sharp has granted the company a grace period, which expires in September 2004, during which the company may defer the payment of a portion of the royalty fee due to Sharp until the expiry of the grace period or until the amount of deferred royalty fee exceeds JPY150.9 million. We have incurred royalty payment obligations of JPY32 million and JPY22 million for the years ended December 31, 2002 and 2003 to Sharp which will be paid in 2004.

F-38

**Table of Contents**

**23. SIGNIFICANT COMMITMENTS AND CONTINGENCIES (continued)**

- d. The Company has unused letters of credit aggregating approximately NT\$79,448 thousand, US\$638 thousand, Euro 10 thousand and JPY5,440,957 thousand, as of December 31, 2003.
- e. ChipMOS Taiwan entered into a share purchase agreement with Caspian Worldwide Holdings Limited (BVI) (Caspian) on December 22, 2003 for the acquisition of 30% of the shares of Ultima Technology Corp. (BVI) with a purchase price of USD11,250 thousand. In order to secure the performance of this transaction, ChipMOS Taiwan provided Caspian with a performance bond in the amount of NT\$290,000 thousand which was returned on May 6, 2004.
- f. In 2003, tax authorities have assessed and adjusted by way of increase the income taxes of ChipMOS Taiwan for the years of 1999 and 2000 by NT\$2,095 thousand and NT\$30,526 thousand respectively. The Company has filed an appeal against the assessment.
- g. During the year, ChipMOS Taiwan entered into several long-term agreements with some of its key customers, under which ChipMOS Taiwan reserves capacity for such customers and under which these customers committed to place orders in the amount of the reserved capacity through 2005 and 2006. These agreements provide that the price of the services will be agreed upon at the time the customers place the orders under such agreements. If ChipMOS Taiwan is unable to test and assemble the agreed number of semiconductors in any given month, these customers may generally use a third party to cover the shortfall. However, under these agreements, ChipMOS Taiwan is generally entitled to cure any shortfall in the following month. If ChipMOS Taiwan fails to do so, ChipMOS Taiwan may be liable for damages up to the amount equal to the number of shortfall units in the given month multiplied by the average sales price per unit in that month. If a customer fails to place orders according to the reserved capacity, ChipMOS Taiwan is entitled to damages based on our costs for the equipment, tooling costs, costs for personnel dedicated to the provisions of capacity to such customer, and the costs for raw materials.
- h. Modern Mind has a capital commitment in relation to capital contribution to ChipMOS Shanghai of US\$202,500 thousand (NT\$6,882,975 thousand), which is due on June 6, 2005.

**24. POST BALANCE SHEET EVENTS**

- (a) ChipMOS Taiwan and ThaiLin incorporated a company called ChipMOS Logic TECHNOLOGIES INC. ( ChipMOS Logic ) in January 2004. ChipMOS Taiwan paid NT\$250 million for a 62.5% interest in ChipMOS Logic. On March 3, 2004, ChipMOS Taiwan and WORLD WIDE TEST Technologies Inc. ( WWT ) entered into a business operation agreement for 1 year, pursuant to which WWT agreed to have ChipMOS Taiwan independently manage and operate all of its business. WWT is a Taiwan-based company that specializes in logic testing services, and it has experienced and continues to experience financial difficulties. On March 5, 2004, ChipMOS Logic purchased WWT's debt from the banks for NT\$650 million. On April 30, 2004, WWT merged into ChipMOS Logic, with ChipMOS Logic as the surviving entity, in a stock-for-stock merger pursuant to which shareholders of WWT received one common share of ChipMOS Logic in exchange for 10 common shares of WWT. Upon consummation of the merger between WWT and ChipMOS Logic, ChipMOS Taiwan and ThaiLin owned approximately 52.9% and 24.6%, respectively, of ChipMOS Logic, with the original management team of WWT, two original shareholders of WWT, including one creditor bank, and the management team of ChipMOS Logic owning the remaining interest.
- (b) ChipMOS Taiwan acquired additional share capital in AMCT in January, February and March, 2004, increasing its shareholding in AMCT to 99.7%. ChipMOS Taiwan purchased all gold bumping

---

**Table of Contents**

**24. POST BALANCE SHEET EVENTS (continued)**

equipment from AMCT in March 2004. The equipment was valued at NT\$88,655 thousand as of December 31, 2003. ChipMOS Taiwan completed in April 2004 the integration of all of AMCT's business operations into ChipMOS Taiwan. ChipMOS Taiwan expects to liquidate AMCT in August 2004.

- (c) Effective April 1, 2004, PlusMOS merged into Chantek under a stock-for-stock merger pursuant to which shareholders of PlusMOS obtained 1.1 common shares of Chantek for each share held in PlusMOS. The Taiwan SEC approved the merger in March 2004.
- (d) The share option plan was amended at a special general meeting on March 19, 2004 to increase the shares available for issuance under the share option plan from 5,800,000 to 9,000,000.
- (e) At a meeting of the board of directors of ChipMOS Taiwan on April 6, 2004, it was agreed that ChipMOS Taiwan obtain another NT\$1,000,000 thousand syndicated long-term bank loan collateralized by its equipment.
- (f) The Investment Commission of the ROC Ministry of Economic Affairs has approved ChipMOS Taiwan's application for acquisition of 4,500,000 shares, representing 30% interest, in Ultima Technology Corp. (Ultima Corp.) from Caspian Worldwide Holdings Limited. ChipMOS Taiwan paid NT\$374,625 thousand (US\$11,250 thousand) on May 5, 2004. ChipMOS Taiwan indirectly owned 30% interest in Ultima Corp's wholly-owned subsidiary, Ultima Electronics (Jiangsu) Co. Ltd.

**25. DERIVATIVE FINANCIAL INSTRUMENTS**

ChipMOS Taiwan entered into forward exchange contracts and foreign currency options for the years ended December 31, 2001, 2002 and 2003 to hedge its exchange rate risk on foreign-currency assets or liabilities and anticipated transactions. Information on the derivative transactions is as follows:

a. Forward exchange contracts

As of December 31, 2002 and 2003, there were no outstanding forward contracts.

Net exchange gains on forward exchange contracts were NT\$13,869 thousand, NT\$0 and NT\$0 for the years ended December 31, 2001, 2002 and 2003, respectively.

b. European Option

ChipMOS Taiwan expects to receive U.S. dollars from its export sales and to pay Japanese yen for its importation of materials, machinery and equipment. It has entered into European-style foreign currency option contracts with banks to hedge exchange rate risks. As of December 31, 2003, ChipMOS Taiwan had no outstanding foreign currency option contracts. For the years ended December 31, 2001 and 2002, ChipMOS



Taiwan realized premium income of NT\$156 thousand and NT\$90 thousand, respectively.

c. Transaction risks

- 1) Credit risk. The banks with which the Company has entered into the above contracts are reputable and, therefore, the Company is not expected to be exposed to significant credit risks.
- 2) Market risk and hedge strategy. The Company is exposed to market risks arising from changes in currency exchange rates due to U.S. dollar denominated accounts receivable, Yen denominated accounts payable and U.S. dollar denominated debt. In order to manage these exposures, the Company sometimes enters into forward contracts and option contracts.

**Table of Contents****25. DERIVATIVE FINANCIAL INSTRUMENTS (continued)**

- 3) Liquidity and cash requirements. The cash flow requirements with respect to the Company's forward contracts are limited to the periodic premium payments and the net differences of the contracted settlement rates. On the other hand, call/put options may not have to be exercised at all in cases where the strike price is higher/lower than the related market price at exercise dates.

- d. The estimated fair values of the Company's financial instruments are as follows:

	December 31,				
	2002		2003		Fair Value
	Carrying Value	Fair Value	Carrying Value	Fair Value	
	NT\$	NT\$	NT\$	NT\$	US\$
(in thousands)					
<i>Non-derivative financial instruments</i>					
<b>Assets</b>					
Cash	2,487,532	2,487,532	1,730,964	1,730,964	50,926
Restricted cash and cash equivalents	678,612	678,612	282,378	282,378	8,308
Short term investments	874,932	874,932	664,251	664,251	19,543
Notes receivable - Third parties	30,474	30,474	11,729	11,729	345
Accounts receivable:					
Related parties	1,104,475	1,104,475	1,342,366	1,342,366	39,493
Third parties	562,480	562,480	1,290,660	1,290,660	37,972
Other receivables:					
Related parties	11,547	11,547	266,175	266,175	7,831
Third parties	92,277	92,277	866,582	866,582	25,495
Long-term investments	1,441,866	1,549,582	640,512	852,674	25,086
Refundable deposits	14,953	14,953	13,724	13,724	404
<b>Liabilities</b>					
Bank loans	2,032,631	2,032,631	1,566,773	1,566,773	46,095
Commercial paper payable	159,427	159,427			
Accounts payable:					
Related parties			5,570	5,570	164
Third parties	145,352	145,352	339,801	339,801	9,997
Other payables:					
Related parties	1,344	1,344	1,019	1,019	30
Third parties	192,747	192,747	263,823	263,823	7,762
Payables to contractors and equipment suppliers	158,750	158,750	344,561	344,561	10,137
Long-term bonds payable	1,200,000	1,064,729	1,200,000	1,008,970	29,684
Long-term loans (including current portion)	3,163,595	3,163,595	2,931,712	2,931,712	86,253
Guarantee deposits	461	461	933	933	27

Fair values of financial instruments were determined as follows:

- 1) Short-term financial instruments - market values.
- 2) Short-term investments - market values.
- 3) Long-term investments - market value for listed companies and net equity value for the others.

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

- 4) Refundable deposits and guarantee deposits future values.
- 5) Long-term liabilities based on forecasted cash flows discounted at current interest rates of similar long-term liabilities. Bonds payable are discounted at present value, using an annual interest rate of 5.95%. Other long-term liabilities are their carrying values as they use floating interest rates.

The fair value of non-financial instruments was not included in the fair values disclosed above. Accordingly, the sum of the fair values of the financial instruments listed above does not equal the fair value of the Company.

F-41

**Table of Contents****26. SEGMENT AND GEOGRAPHIC INFORMATION**

The Company engages mainly in the research and development, manufacturing, assembly, testing and turnkey of semiconductors. In accordance with Statement of Financial Accounting Standards (SFAS) No. 131, "Disclosure About Segments of an Enterprise and Related Information", the Company's chief operating decision maker has been identified as the Chief Executive Officer, who reviews these segment results by Testing, Assembly, Testing and Assembly for LCD and other Flat-Panel Display Driver Semiconductors and Turnkey when making decisions about allocating resources and assessing performance of the Company. Due to the increasing importance of our LCD and other flat-panel display driver semiconductor services and the fact that those services include a combination of testing and assembly, commencing from 2002, we view LCD and other flat-panel display driver semiconductor services as a separate, distinct segment of our business. Financial segment information required by SFAS No. 131 is as follows:

- a. The Company provides semiconductor testing, assembly, turnkey services and LCD and other flat-panel display driver semiconductors services.

<b>2001</b>							
	<b>Testing</b>	<b>Assembly</b>	<b>Turnkey</b>	<b>LCD</b>	<b>Segment Totals</b>	<b>Corporate &amp; Other assets</b>	<b>Consolidated Totals</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>
	<b>(in thousands)</b>						
Revenue from customers	2,242,676	1,610,880	1,260,034	131,505	5,245,095		5,245,095
Cost of revenues	2,965,268	1,413,396	1,246,657	403,988	6,029,309		6,029,309
Segment gross profit (loss)	(722,592)	197,484	13,377	(272,483)	(784,214)		(784,214)
Depreciation and amortization	2,094,143	506,901		191,359	2,792,403	22,948	2,815,351
Segment assets	7,262,355	2,380,771		1,290,762	10,933,888	5,167,394	16,101,282
Expenditure for segment assets	650,340	18,177		323,451	991,968		991,968
<b>2002</b>							
	<b>Testing</b>	<b>Assembly</b>	<b>Turnkey</b>	<b>LCD</b>	<b>Segment Totals</b>	<b>Corporate &amp; Other assets</b>	<b>Consolidated Totals</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>
	<b>(in thousands)</b>						
Revenue from customers	2,331,057	1,415,196	1,787,838	991,774	6,525,865		6,525,865
Cost of revenues	2,684,654	1,394,291	1,766,985	865,776	6,711,706		6,711,706
Segment gross profit (loss)	(353,597)	20,905	20,853	125,998	(185,841)		(185,841)
Depreciation and amortization	2,055,221	443,718		310,239	2,809,178	11,335	2,820,513
Segment assets	5,724,785	2,035,886		2,209,521	9,970,192	7,983,519	17,953,711

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Expenditure for segment assets	531,434	68,421	1,164,630	1,764,485	1,764,485
--------------------------------	---------	--------	-----------	-----------	-----------

2003

	Testing	Assembly	Turnkey	LCD	Segment Totals	Corporate & Other assets	Consolidated Totals	
	NT\$	NT\$	NT\$	NT\$	NT\$	NT\$	NT\$	US\$
	(in thousands)							
Revenue from customers	3,155,845	2,728,932	1,458,264	1,683,490	9,026,531		9,026,531	265,564
Cost of revenues	2,709,473	2,184,549	1,410,231	1,155,322	7,459,575		7,459,575	219,464
Segment gross profit (loss)	446,372	544,383	48,033	528,168	1,566,956		1,566,956	46,100
Depreciation and amortization	1,895,775	333,068		451,710	2,680,553	34,406	2,714,959	79,875
Segment asset	7,501,242	2,427,030		2,150,940	12,079,212	7,394,149	19,473,361	572,915
Expenditure for segment assets	1,439,226	554,972		387,929	2,382,127	19,698	2,401,825	70,663

F-42

**Table of Contents****26. SEGMENT AND GEOGRAPHIC INFORMATION (continued)**

In providing turnkey services, the Company purchases fabricated wafers and sells tested and assembled semiconductors. The process of conducting testing and assembling for the fabricated wafer is at a very limited level, which only uses a very small portion of the Company's facility capacity. Therefore, the Company allocated no specific assets to the turnkey segment and accordingly, no related depreciation and amortization was allocated.

The corporate and other assets consist of the total current assets, long-term investments, property and equipment located in the U.S. and Japan, long-term restricted cash equivalents, intangible assets of bond issuance costs, employee dormitory building and refundable deposits.

## b. Net revenue:

Area	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
	(in thousands)			
ROC	4,693,604	5,755,406	7,538,381	221,782
U.S.	295,541	204,067	495,803	14,587
Japan	215,684	169,299	414,422	12,192
Others	40,266	397,093	577,925	17,003
	<u>5,245,095</u>	<u>6,525,865</u>	<u>9,026,531</u>	<u>265,564</u>

## c. Net sales to customers representing at least 10% of net total sales:

Customer	Year Ended December 31,							
	2001		2002		2003			
	Amount	%	Amount	%	Amount	%	Amount	
	NT\$		NT\$		NT\$		US\$	
	(in thousands)							
ProMOS	5,002				1,748,326	19	51,436	
MVI	2,495,046	48	2,285,348	35	1,680,986	19	49,455	
Ultima	1,163,383	22	1,218,265	19	1,126,689	12	33,148	

**27. SUMMARY OF SIGNIFICANT DIFFERENCES BETWEEN ACCOUNTING PRINCIPLES FOLLOWED BY THE COMPANY AND ACCOUNTING PRINCIPLES GENERALLY ACCEPTED IN THE UNITED STATES**

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the Republic of China ( ROC GAAP ), which differ in the following respects from accounting principles generally accepted in the United States of America ( U.S. GAAP ):

a. Bonuses to employees, directors and supervisors

According to ROC regulations and the Articles of Incorporation of ChipMOS Taiwan, a portion of distributable earnings should be appropriated as bonuses to employees and remuneration to directors and supervisors of ChipMOS Taiwan. The remuneration to directors and supervisors is paid in cash, while bonuses to employees may be granted in cash or stock or both. ChipMOS Bermuda's portion of these appropriations is charged to earnings of ChipMOS Bermuda under ROC GAAP based on the amount to be paid as provided by ChipMOS Taiwan's Articles of Incorporation and is presented as a

F-43

**Table of Contents****27. SUMMARY OF SIGNIFICANT DIFFERENCES BETWEEN ACCOUNTING PRINCIPLES FOLLOWED BY THE COMPANY AND ACCOUNTING PRINCIPLES GENERALLY ACCEPTED IN THE UNITED STATES (continued)**

separate line item below minority interests in the accompanying consolidated statements of operations. No bonuses were paid to employees, directors and supervisors for the three years in the period ended December 31, 2003.

Under U.S. GAAP, such bonuses and remuneration are also charged to income currently and included in operating expenses as compensation expenses. Since the amount and form of such bonuses and remuneration are not finally determinable until approved by the shareholders, the total amount of such bonuses and remuneration are initially accrued based on the amount to be paid as provided by ChipMOS Taiwan's Articles of Incorporation. The percentage to be paid in stock is determined at the next shareholders' meeting in the following year. The number of shares to be issued is determined by dividing the amount to be paid in stock by the par value of the shares. Any differences between the initially accrued amount (the cash portion plus the par value of the shares) and the fair market value of the bonuses settled (the cash portion plus the fair value of the shares) is recognized in the year of approval by the shareholders.

b. Marketable securities

Under ROC GAAP, marketable equity securities are carried at the lower of aggregate cost or market value, and debt securities at cost, with only unrealized losses recognized when losses are irrecoverable. Under SFAS No. 115, Accounting for Certain Investments in Debt and Equity Securities, debt and equity securities that have readily determinable fair values are to be classified as either trading, available-for-sale or held-to-maturity securities. Debt securities that the Company has the positive intent and ability to hold-to-maturity are classified as held-to-maturity securities and reported at amortized cost. Debt and equity securities that are bought and traded for short-term profit are classified as trading securities and reported at fair value, with unrealized gains and losses included in earnings. Debt and equity securities not classified as either held-to-maturity or trading are classified as available-for-sale securities and reported at fair value, with unrealized gains and losses excluded from earnings and reported in a separate component of shareholders' equity; however, unrealized losses relating to declines in fair value deemed to be other than temporary are recorded in earnings. The adjustment below relates to the Company's equity securities that are classified as trading and available-for-sale securities under U.S. GAAP.

c. Long-term investments

Under both ROC and U.S. GAAP, investments in shares of companies wherein the Company owns over 20% of the outstanding common stock and exercises significant influence over operating and financial policies of the investee companies are generally accounted for under the equity method. However, there are differences in applying equity accounting under ROC GAAP and U.S. GAAP. The Company's proportionate share of the income (loss) from an equity investee may differ if the equity investee's net income (loss) under ROC GAAP differs from that under U.S. GAAP. The differences between ROC GAAP and U.S. GAAP for the equity investee is nominal, thus do not appear in the reconciliations below.

d. Technologies transferred in payment of capital stock

As discussed in Note 11, MVI and SPIL contributed, as payment for their subscription in the shares of stock of ChipMOS Taiwan, technologies relating to the testing and assembly of semiconductors at an agreed value of NT\$750,000 thousand. Under ROC GAAP, such technology



---

**Table of Contents**

**27. SUMMARY OF SIGNIFICANT DIFFERENCES BETWEEN ACCOUNTING PRINCIPLES FOLLOWED BY THE COMPANY AND ACCOUNTING PRINCIPLES GENERALLY ACCEPTED IN THE UNITED STATES (continued)**

transfers in payment of capital stock are recorded as an intangible asset, and amortized by systematic charges to income over the periods estimated to be benefited. As permitted under ROC GAAP, the Company uses a 5-years amortization period. Under U.S. GAAP, the technology contribution cannot be recognized due to the unavailability of a fair value for the technologies. Therefore, the carrying value of the technologies has been adjusted to zero under U.S. GAAP.

e. Start-up costs

ROC GAAP requires start-up costs to be deferred and amortized in a systematic manner over its estimated useful beneficial life. Start-up costs include all costs incurred prior to production readiness. On the other hand, U.S. GAAP primarily requires that start-up costs be expensed as incurred.

f. Depreciation of fixed assets and employee dormitory building

Under ROC GAAP, the estimated life of a building can be as long as 55 years based on the ROC Internal Revenue Code. For U.S. GAAP purposes, building lives are estimated to be 25 years.

g. Transfer of building and facilities from MVI

The Company purchased building and facilities from MVI in 1997. The costs of assets purchased from MVI were based on MVI's book value of such building and facilities on a specified cut-off date plus an additional payment of NT\$173,174 thousand representing compensation to MVI. This additional payment of NT\$173,174 thousand was capitalized by the Company as allowed under ROC GAAP. Under U.S. GAAP, assets acquired are recorded at amounts that do not exceed their fair values. Also, generally under U.S. GAAP, the transferee should evaluate the assets transferred from related parties with significant influence at the predecessor's basis. Therefore, the transfer of assets from MVI was recorded at MVI's predecessor cost basis and NT\$173,174 thousand was deducted from the capital surplus and building and facilities for the purposes of U.S. GAAP.

h. Inventory

As discussed in paragraphs e, f, and g, the amortization of start-up costs, the depreciation of fixed assets and employee dormitory building, and depreciation on the assets transferred from MVI were reconciled for U.S. GAAP purposes. Some of such expenses were recorded in the manufacturing expenses and therefore affect ending inventory balances under U.S. GAAP.

i. Capital surplus

Under ROC GAAP, the following items are treated as capital surplus: (a) premium on issuance of common stock; and (b) gain, net of applicable income tax, on disposal of properties. Under U.S. GAAP, item (a) is the same as in ROC GAAP; and item (b) is recorded as part of net income, which is then included as a component of retained earnings. However, starting in 2002, the treatment of item (b) under ROC GAAP has become

the same as under U.S. GAAP.

j. Impairment of long-lived assets

Under U.S. GAAP, impairment losses for assets to be held and used are recorded in current period earnings and create a new cost basis for related assets going forward, and cannot be reversed subsequently. Under U.S. GAAP, in accordance with SFAS No. 144, Accounting for the Impairment or Disposal of Long-Lived Assets, long-lived assets held and used by the Company are reviewed for

F-45

**Table of Contents****27. SUMMARY OF SIGNIFICANT DIFFERENCES BETWEEN ACCOUNTING PRINCIPLES FOLLOWED BY THE COMPANY AND ACCOUNTING PRINCIPLES GENERALLY ACCEPTED IN THE UNITED STATES (continued)**

impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. For purposes of evaluating the recoverability of long-lived assets, the recoverability test is performed by comparing undiscounted net cash flows of the assets to the net book value of the assets. If the recoverability test indicates that impairment has occurred, the impairment loss is the amount of the asset's net book value in excess of the related fair value. Under ROC GAAP, there is no requirement to provide for impairment of long-lived assets. Based on an assessment by the Company, there were no impairment losses for the Company as of December 31, 2002 and 2003.

## k. Derivative financial instruments

Under ROC GAAP, there are no specific rules related to accounting for derivative financial instruments, nor any criteria for hedge accounting. Therefore, companies have the flexibility in choosing when to recognize derivative financial instruments and when to follow hedge accounting versus fair value accounting for such instruments. U.S. GAAP has restrictive rules on hedge accounting under SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities* and SFAS No. 138, *Accounting for Certain Derivative Instruments and Hedging Activities*. SFAS No. 133 and SFAS No. 138 are effective for fiscal years beginning after June 15, 2000, and establish accounting and reporting standards for all derivative financial instruments. The Company adopted those statements on January 1, 2001. The adoption of SFAS No. 133 and SFAS No. 138 had no material impact on the Company's financial statements. Under U.S. GAAP, the Company did not apply hedge accounting and derivatives have historically been, and continue to be, recorded on the balance sheets at fair value, with the changes in fair values recorded through current period earnings. In addition, the Company has no embedded derivatives from January 1 to December 31, 2003. The reconciling adjustments for all periods presented reflect those reconciliations from hedge accounting under ROC GAAP to non-hedge accounting under U.S. GAAP.

## l. Employee share purchase

The Company has elected to apply Accounting Principles Board Opinion No. 25, *Accounting for Stock Issued to Employees* (APB Opinion No. 25) when new shares are issued to employees, which measures compensation expenses based on the difference, if any, between the quoted market price of the common stock and the exercise price on the date of issuance. In 2000, the total compensation expense of NT\$25,900 thousand was recognized in full immediately, representing the excess of the quoted market price over the amounts paid by employees on the date the shares were purchased.

## m. Earnings per share (EPS)

In calculating the weighted average number of shares outstanding for EPS purposes under ROC GAAP, employee bonus shares have been treated as outstanding for all periods in a manner similar to a stock split or stock dividend. Under U.S. GAAP, employee bonus shares have been considered separately from the stock dividend or split and have been treated as outstanding from the date of shareholder approval.

## n. Interest capitalization

Under ROC GAAP, interests on borrowings during construction conceptually should be capitalized in the assets that are constructed or produced for a company's own use. However, if equity capital is raised during a year, no capitalization interest is recorded for the amount of property acquired



**Table of Contents****27. SUMMARY OF SIGNIFICANT DIFFERENCES BETWEEN ACCOUNTING PRINCIPLES FOLLOWED BY THE COMPANY AND ACCOUNTING PRINCIPLES GENERALLY ACCEPTED IN THE UNITED STATES (continued)**

up to the equity capital raised in that year. Under U.S. GAAP, SFAS No. 34 Capitalization of Interest Cost interest is generally capitalized on assets until they are available and ready for use.

## o. Goodwill

Under ROC GAAP goodwill arises as the difference between acquisition cost and the equity of the subsidiary and is amortized over a five year period, whereas under US GAAP such goodwill is not amortized, but is subject to impairment tests.

## p. Pension expenses

SFAS No. 87, Accounting for Pensions, and SFAS No. 88, Employer's Accounting for Settlements and Curtailments of Defined Benefit Pension Plans and for Termination Benefits, were effective no later than the beginning of the first period for which a U.S. GAAP reconciliation is required for foreign issuers. A portion of the unrecognized net transition obligation on the adoption date is to be allocated directly to equity. The Company started to adopt SFAS No. 87 and SFAS No. 88 in 1997 and 2001, respectively. ROC SFAS No. 18, which is similar in many respects to SFAS No. 87 and SFAS No. 88, became effective in 1996. However, the treatment of certain expenses that comply with ROC SFAS No. 18 is different from SFAS No. 87 and SFAS No. 88.

The following reconciles net income (loss) and shareholders' equity under ROC GAAP as reported in the accompanying consolidated financial statements to net income (loss) and shareholders' equity amounts determined under U.S. GAAP, giving effect to adjustments for the differences listed above.

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
	(in thousands)			
<b>Net income (loss)</b>				
Net income (loss) based on ROC GAAP	(1,134,927)	(970,285)	482,385	14,192
Adjustments:				
Adjustment for employee stock bonuses paid by subsidiary	(34,065)			
Amortization of technology transfers in payment of capital stocks	150,000	95,833	18,334	539
Amortization of start-up costs	13,424	14,699	14,796	435
Depreciation of property, plant and equipment and employee dormitory building	(13,829)	(14,270)	(26,605)	(782)
Transfer of building and facilities from MVI	28,841	15,634	2,104	62
Derivative financial instruments	2,049			
Pension expenses	(1,898)			
Marketable securities trading	25,647	(31,139)	1,916	56
Interest capitalization	75,429	43,329	3,411	100
Depreciation of interest capitalization	(2,201)	(4,254)	(6,009)	(177)
Effect of U.S. GAAP adjustments on income taxes	(41,823)	(38,217)	(3,825)	(112)
Minority interests	(60,170)	(24,709)	(1,223)	(36)

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Net increase (decrease) in net income (loss)	141,404	56,906	2,899	85
Net income (loss) based on U.S. GAAP	(993,523)	(913,379)	485,284	14,277
Earnings (loss) per share basic	(17.03)	(15.52)	8.24	0.24
Earnings (loss) per share diluted	(17.03)	(15.52)	8.17	0.24
Number of weighted average shares outstanding basic	58,342	58,835	58,908	58,908
Number of weighted average shares outstanding diluted	58,342	58,835	59,429	59,429

F-47

**Table of Contents****27. SUMMARY OF SIGNIFICANT DIFFERENCES BETWEEN ACCOUNTING PRINCIPLES FOLLOWED BY THE COMPANY AND ACCOUNTING PRINCIPLES GENERALLY ACCEPTED IN THE UNITED STATES (continued)**

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$ (in thousands)	NT\$	US\$
<b>Shareholders' equity</b>				
Shareholders' equity based on ROC GAAP	7,599,181	6,713,348	7,248,238	213,246
Adjustments:				
Technology transfer in payment of capital stocks				
Original cost	(750,000)	(750,000)	(750,000)	(22,065)
Accumulated amortization of technology transfer in payment of capital stocks	635,833	731,666	750,000	22,065
Start-up costs				
Original cost	(90,376)	(86,523)	(73,329)	(2,157)
Accumulated amortization of start-up costs	41,245	51,998	53,554	1,576
Net effect on inventories	(345)	(252)	(206)	(6)
Depreciation of fixed assets and employee dormitory building				
Depreciation of fixed assets and employee dormitory building	(42,877)	(57,032)	(96,263)	(2,832)
Net effect on inventories	366	251	252	7
Transfer of building and facilities from MVI				
Original cost	(173,174)	(173,174)	(173,174)	(5,095)
Depreciation and gain on disposal of building and facilities from MVI	149,881	164,952	166,789	4,907
Net effect on inventories	(864)	(301)	(34)	(1)
Unrealized holding gain on available-for-sale securities	153,621	79,277		
Pension expenses	(1,898)	(1,898)	(1,898)	(56)
Marketable securities trading	25,647	(5,492)	(3,576)	(105)
Long term investments			(12,507)	(368)
Interest capitalization	75,429	118,757	122,168	3,594
Depreciation of interest capitalization	(2,201)	(6,455)	(12,464)	(367)
Effect of U.S. GAAP adjustments on income taxes	39,745	1,528	(2,297)	(68)
Minority interests	(18,189)	(20,465)	6,073	179
Net increase (decrease) in shareholders' equity	41,843	46,837	(26,912)	(792)
Shareholders' equity based on U.S. GAAP	7,641,024	6,760,185	7,221,326	212,454
<b>Changes in shareholders' equity based on U.S. GAAP</b>				
Balance, beginning of the year	8,477,542	7,641,024	6,760,185	198,887
Issuance of capital		63,237		
Issuance of option warrants		25,156	18,903	556
Exercise of option warrants			56,815	1,671
Reversal of unrealized loss (gain) on available-for-sale securities	38,906	(107,073)	(76,502)	(2,250)
Unrealized gain (loss) on available-for-sale securities	107,073	55,763		
Cumulative translation adjustments	(272)	(34)	(31,388)	(923)
Net income (loss) for the year	(993,523)	(913,379)	485,284	14,277
Adjustment of equity method for long-term investment		(3,907)	8,029	236
Adjustment arising from changes in ownership percentage in subsidiaries	11,298	(602)		
Balance, end of the year	7,641,024	6,760,185	7,221,326	212,454

**Table of Contents****27. SUMMARY OF SIGNIFICANT DIFFERENCES BETWEEN ACCOUNTING PRINCIPLES FOLLOWED BY THE COMPANY AND ACCOUNTING PRINCIPLES GENERALLY ACCEPTED IN THE UNITED STATES (continued)**

A reconciliation of the significant balance sheet accounts to the approximate amounts determined under U.S. GAAP is as follows:

	December 31,		
	2002	2003	
	NT\$	NT\$ (in thousands)	US\$
<b>Current assets</b>			
As reported	5,668,754	7,479,717	220,057
U.S. GAAP adjustments			
Marketable securities trading	(5,492)	(3,576)	(105)
Effect of inventory adjustments:			
Start-up costs	(252)	(206)	(6)
Depreciation of fixed assets and employee dormitory building	251	252	7
Transfer of building and facilities from MVI	(301)	(34)	(1)
As adjusted	<u>5,662,960</u>	<u>7,476,153</u>	<u>219,952</u>
<b>Long-term investments</b>			
As reported	1,441,866	640,512	18,844
U.S. GAAP adjustments			
Unrealized holding gain on available-for-sale securities	79,277		
Long term investments		(15,412)	(453)
As adjusted	<u>1,521,143</u>	<u>625,100</u>	<u>18,391</u>
<b>Property, plant and equipment net</b>			
As reported	10,043,629	11,086,830	326,179
U.S. GAAP adjustments			
Start-up costs	(34,525)	(19,775)	(582)
Depreciation of fixed assets	(50,393)	(87,993)	(2,589)
Transfer of building and facilities from MVI	(8,222)	(6,385)	(188)
Interest capitalization	112,302	109,704	3,228
As adjusted	<u>10,062,791</u>	<u>11,082,381</u>	<u>326,048</u>
<b>Intangible assets net</b>			
As reported	51,876	225,203	6,626
U.S. GAAP adjustments			
Technology transfer in payment of capital stock	(18,334)		
As adjusted	<u>33,542</u>	<u>225,203</u>	<u>6,626</u>
<b>Other assets</b>			
As reported	747,586	233,425	6,867
U.S. GAAP adjustments			
Depreciation of employee dormitory building	(7,142)	(8,773)	(258)
As adjusted	<u>740,444</u>	<u>224,652</u>	<u>6,609</u>





**Table of Contents****27. SUMMARY OF SIGNIFICANT DIFFERENCES BETWEEN ACCOUNTING PRINCIPLES FOLLOWED BY THE COMPANY AND ACCOUNTING PRINCIPLES GENERALLY ACCEPTED IN THE UNITED STATES (continued)**

	December 31,		
	2002	2003	
	NT\$	NT\$ (in thousands)	US\$
<b>Other liabilities</b>			
As reported	258,434	599,543	17,639
U.S. GAAP adjustments			
Pension expense	1,898	1,898	56
Effect of U.S. GAAP adjustments on income taxes	(1,528)	2,297	67
<b>As adjusted</b>	<b>258,804</b>	<b>603,738</b>	<b>17,762</b>
<b>Minority interests</b>			
As reported	2,887,109	4,427,971	130,273
U.S. GAAP adjustments			
Shareholders' equity	19,962	(9,481)	(279)
<b>As adjusted</b>	<b>2,907,071</b>	<b>4,418,490</b>	<b>129,994</b>

As a result of the adjustments presented above, the approximate amounts of total assets under U.S. GAAP were NT\$18,020,880 thousand and NT\$19,633,489 thousand as of December 31, 2002, and 2003, respectively.

The following U.S. GAAP condensed statements of operation for the years ended December 31, 2001, 2002 and 2003 have been derived from the audited financial statements and reflect the adjustments presented above. Certain accounts have been reclassified to conform to U.S. GAAP. Reversal of allowance for doubtful receivables, gain (loss) on disposal of property, plant and equipment and loss on lease rescission are included as operating expenses.

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$ (in thousands)	NT\$	US\$
Net revenue	5,245,095	6,525,865	9,026,531	265,564
Cost of revenue	5,999,506	6,700,265	7,472,279	219,837
<b>Gross profit (loss)</b>	<b>(754,411)</b>	<b>(174,400)</b>	<b>1,554,252</b>	<b>45,727</b>
Operating expenses	658,443	497,960	787,664	23,173
<b>Income (loss) from operations</b>	<b>(1,412,854)</b>	<b>(672,360)</b>	<b>766,588</b>	<b>22,554</b>
Non-operating income (expenses) net	103,222	(467,114)	(69,089)	(2,033)
<b>Income (loss) before income tax</b>	<b>(1,309,632)</b>	<b>(1,139,474)</b>	<b>697,499</b>	<b>20,521</b>

Net income (loss)	(993,523)	(913,379)	485,284	14,277
-------------------	-----------	-----------	---------	--------

**28. ADDITIONAL DISCLOSURES REQUIRED BY U.S. GAAP**

a. Recent accounting pronouncements

The Company is required by SEC Staff Accounting Bulletin No. 74 to make certain disclosures about the effect that recently issued accounting standards will have on the financial statements adopted for future periods.

In June 2001, the FASB issued SFAS No. 143, *Accounting for Asset Retirement Obligations*. The statement requires, among other provisions, retirement obligations to be recognized when they are incurred and displayed as liabilities, with a corresponding amount capitalized as part of the related long-lived asset. The capitalized element is required to be expensed using a systematic and rational method over its useful life. SFAS No. 143 has been adopted by the Company on January 1, 2003 and has not had a material impact on the accompanying consolidated financial statements.

---

**Table of Contents**

**28. ADDITIONAL DISCLOSURES REQUIRED BY U.S. GAAP (continued)**

In July 2002 the Financial Accounting Standards Board issued SFAS No. 146, *Accounting for Costs Associated with Exit or Disposal Activities*. This standard requires companies to recognize costs associated with exit or disposal activities when they are incurred rather than at the date of a commitment to an exit or disposal plan. SFAS No. 146 nullifies Emerging Issues Task Force Issue No. 94-3, *Liability Recognition for Certain Employee Termination benefits and Other Costs to Exit an Activity (including certain costs incurred in a restructuring)*. SFAS No. 146 is applied prospectively to exit or disposal activities after December 31, 2002. The Company adopted SFAS No. 146 on January 1, 2003 which has not had a material impact on the accompanying consolidated financial statements.

In January 2003, FASB issued Interpretation No. 46, *Consolidation of Variable Interest Entities*, an Interpretation of ARB No. 51 (FIN 46). FIN 46 clarifies when a company should consolidate in its financial statements the assets, liabilities and activities of a variable interest entity. FIN 46 provides general guidance as to the definition of a variable interest entity and requires a variable interest entity to be consolidated if a company absorbs the majority of the variable interest entity's expected losses, or is entitled to receive a majority of the variable interest entity's residual returns, or both. In December 2003, FASB issued a revised Interpretation of FIN 46 (FIN 46-R), which supercedes FIN 46 and clarifies and expands current accounting guidance for variable interest entities. FIN 46 and FIN 46-R are effective immediately for all variable interest entities created after January 31, 2003, and for variable interest entities created prior to February 1, 2003, no later than the end of the first reporting period after March 15, 2004.

In April 2003, FASB issued SFAS No. 149, *Amendment of Statement 133 on Derivative Instruments and Hedging Activities*. SFAS No. 149 amends and clarifies accounting for derivative instruments, including certain derivative instruments embedded in other contracts, and for hedging activities under SFAS No. 133. In particular, this Statement clarifies under what circumstances a contract with an initial net investment meets the characteristic of a derivative and when a derivative contains a financing component that warrants special reporting in the statement of cash flows. This Statement is generally effective for contracts entered into or modified after June 30, 2003. The adoption of SFAS No. 149 did not have a material impact on the Company's financial reporting and disclosures.

In May 2003, FASB issued SFAS No. 150, *Accounting for Certain Financial Instruments with Characteristics of both Liabilities and Equity*. SFAS No. 150 changes the accounting for certain financial instruments that, under previous guidance, could be classified as equity or mezzanine equity by now requiring those instruments to be classified as liabilities (or assets in some circumstances) in the statement of financial position. Further, SFAS No. 150 requires disclosure regarding the terms of those instruments and settlement alternatives. The guidance in SFAS No. 150 generally is effective for all financial instruments entered into or modified after May 31, 2003, and is otherwise effective at the beginning of the first interim period beginning after June 15, 2003. We have evaluated SFAS No. 150 and determined that it does not have an impact on our financial reporting and disclosures.

In December 2003, FASB issued SFAS No. 132, *Employers' Disclosures about Pensions and Other Postretirement Benefits*. This Statement revises employers' disclosures about pension plans and other postretirement benefits plans. This Statement requires additional disclosures about the assets, obligations, cash flows and net periodic benefit cost of defined benefit pension plans and other defined benefit postretirement plans. The required information should be provided separately for pension plans and for other postretirement benefit plans. This Statement also requires new disclosures for interim periods beginning after December 15, 2003. The Statement was effective for fiscal years ending after

---

**Table of Contents**

**28. ADDITIONAL DISCLOSURES REQUIRED BY U.S. GAAP (continued)**

December 15, 2003. The Company adopted this Statement for the year ended December 31, 2003. (Refer to Note d, pension plans).

In December 2003, the Staff of the Securities and Exchange Commission (SEC) issued Staff Accounting Bulletin (SAB) No. 104, Revenue Recognition, which supercedes SAB 101, Revenue Recognition in Financial Statements. SAB 104's primary purpose is to rescind accounting guidance contained in SAB 101 related to multiple element revenue arrangements and revises the SEC's Revenue Recognition in Financial Statements Frequently Asked Questions and Answers that have been codified in Topic 13. SAB 104 was effective immediately and did not have a material impact on the Company's financial reporting and disclosures.

In April 2002, FASB issued SFAS No. 145, Rescission of FASB Statements No. 4, 44, and 64, Amendment of FASB Statement No. 13, and Technical Corrections. Under SFAS No. 4, all gains and losses from extinguishment of debt were required to be aggregated and, if material, classified as an extraordinary item, net of related income tax effect. This Statement eliminates SFAS No. 4 and, thus, the exception to applying Accounting Principles Board (APB) Opinion No. 30 to all gains and losses related to extinguishments of debt. As a result, gains and losses from extinguishments of debt should be classified as extraordinary items.

This FASB has issued SFAS No. 147, Acquisitions of Certain Financial Institutions, which is effective for certain transactions arising on or after October 1, 2002. SFAS No. 147 will have no impact on the Company.

The FASB has issued SFAS No. 148 Accounting for Stock-Based Compensation Transition and Disclosures. SFAS No. 148 amends SFAS No. 123, Accounting for Stock-Based Compensation, to provide alternative methods of transition for a voluntary change to the fair value based method of accounting for stock-based employee compensation. In addition, SFAS No. 148 amends the disclosure requirements of SFAS No. 123 to require prominent disclosures in both annual and interim financial statements about the method of accounting for stock-based employee compensation and the effect of the method used on reported results. The Company has adopted the disclosure requirements of SFAS No. 148. The Company currently accounts for stock-based employee compensation in accordance with APB Opinion No. 25, Accounting for Stock Issued to Employees, and related interpretations. Accordingly, the alternative methods of transition for a voluntary change to the fair value based method of accounting for stock-based employee compensation mandated by SFAS No. 148 are not applicable to the Company.

FASB Interpretation No. 45 (FIN 45), Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others, an interpretation of FASB Statements No. 5, 57, and 107 and rescission of FASB Interpretation No. 34, was issued in November 2002. FIN 45 elaborates on the disclosures to be made by a guarantor in its interim and annual financial statements about its obligations under certain guarantees that it has issued. It also clarifies that a guarantor is required to recognize, at the inception of a guarantee, a liability for the fair value of the obligation undertaken in issuing the guarantee. FIN 45 does not prescribe a specific approach for subsequently measuring the guarantor's recognized liability over the term of the related guarantee. The initial recognition and initial measurement provisions of FIN 45 are applicable on a prospective basis to guarantees issued or modified after December 31, 2002, irrespective of the guarantor's fiscal year end. The disclosure requirements in FIN 45 are effective for financial statements of interim or annual periods ending after December 15, 2002. The Company has made the disclosures requirement required by FIN 45.

**Table of Contents****28. ADDITIONAL DISCLOSURES REQUIRED BY U.S. GAAP (continued)**

## b. Marketable securities

On December 31, 2002 and 2003, certain investments carried at cost under ROC GAAP were revalued for purposes of U.S. GAAP presentation:

	(ROC GAAP) Carrying Value		(U.S. GAAP) Fair Value		
	2002	2003	2002	2003	
	NT\$	NT\$	NT\$	NT\$	US\$
	(in thousands)				
Investment in trading securities (Note 4)	874,932	664,251	869,440	660,675	19,437
Long-term investments available-for-sale securities (Note 9)	218,099		297,376		

The Company uses the weighted-average cost method for trading securities and available-for-sale securities when determining the cost basis.

## c. Income tax expense (benefit)

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
	(in thousands)			
Income tax current payable	57,302	4,271	1,309	38
Deferred income tax	36,583	116,899	(29,854)	(878)
Adjustment of prior years' income taxes	(19,649)	14,963	3,364	99
Income tax expense (benefit)	74,236	136,133	(25,181)	(741)

Reconciliation between the income tax calculated on pre-tax financial statement income based on the statutory tax rate and the income tax expense (benefit) which conforms to U.S. GAAP as follows:

Year Ended December 31,		
2001	2002	2003

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

	NT\$	NT\$ (in thousands)	NT\$	US\$
Tax on pretax income at 0%				
Tax on pretax income at ROC statutory rate (25%)	(308,415)	(263,771)	196,833	5,791
SBIP tax exemption (5%)				
Tax on pretax income at SBIP statutory rate	(308,415)	(263,771)	196,833	5,791
Other tax & assessed additional income tax	114,459	4,217	1,309	38
Tax paid by subsidiaries	73	54	90	3
Tax effects of:				
Tax-exempt income		(3,149)	(1,469)	(43)
Permanent differences				
Non-taxable gain on sales of investment	(58,175)	2,820	(22,571)	(664)
Non-deductible investment losses	18,758	65,902	6,613	194
Bonus to employees and directors	8,600			
Others	(10,569)	7,337		
Tax credits utilized	(57,230)		(187,700)	(5,522)
deferred	(434,872)	119,312	44,082	1,297
Valuation allowance	772,006	181,393	(65,772)	(1,935)
Effect of increase in tax rate on deferred taxes	49,250			
Loss carry forward		7,055	40	1
Adjustment of prior year's income tax	(19,649)	14,963	3,364	99
Income tax expense (benefit)	74,236	136,133	(25,181)	(741)

F-53

**Table of Contents****28. ADDITIONAL DISCLOSURES REQUIRED BY U.S. GAAP (continued)**

The components of net deferred income tax assets (liabilities) were as follows:

	December 31,		
	2002	2003	
	NT\$	NT\$ (in thousands)	US\$
<b>Deferred income tax assets</b>			
Current			
Unrealized foreign exchange loss	5,439	8,599	253
Unearned interest income		16,666	490
Pre-operating expenses		12,911	380
Loss carried forward		68,800	2,024
Tax credits		143,905	4,234
Loss of market price decline and obsolescence and slow-moving inventories	21,652	6,385	188
Unrealized loss on sale allowances	5,721	10,387	306
Others	5,655	18,408	541
	<u>38,467</u>	<u>286,061</u>	<u>8,416</u>
Valuation allowance		(19,112)	(562)
	<u>38,467</u>	<u>266,949</u>	<u>7,854</u>
Non-current			
Tax credits for investment in machinery and equipment and R&D expenditure	839,526	647,607	19,053
Loss carry forward	812,630	864,317	25,429
Technology transfer in payment of capital stocks	4,584		
Building		1,605	47
Start-up costs	8,694	4,995	147
Others	4,077	3,108	91
	<u>1,669,511</u>	<u>1,521,632</u>	<u>44,767</u>
Valuation allowances	(1,309,399)	(1,425,566)	(41,941)
	<u>360,112</u>	<u>96,066</u>	<u>2,826</u>
<b>Deferred income tax liabilities</b>			
Non-current			
Depreciation differences	(561,413)	(572,260)	(16,836)
Interest capitalization	(28,076)	(26,644)	(784)
Other	(874)		
	<u>(590,363)</u>	<u>(598,904)</u>	<u>(17,620)</u>
	<u>(191,784)</u>	<u>(235,889)</u>	<u>(6,940)</u>



**Table of Contents****28. ADDITIONAL DISCLOSURES REQUIRED BY U.S. GAAP (continued)**

## d. Pension plans

In accordance with SFAS No. 132 Revised, *Employers' Disclosures about Pensions and Other Post-retirement Benefits*, pension information is disclosed below:

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
	(in thousands)			
<b>Components of net periodic benefit cost</b>				
Service cost	23,363	21,323	36,130	1,063
Interest cost	3,384	3,529	5,039	148
Project return on plan assets	(2,496)	(2,802)	(2,990)	(88)
Net amortization and deferral:				
Unrecognized net transition obligation		28	53	2
Unrecognized prior service costs	96			
Curtailment gain	(5,004)		662	19
<b>Net periodic benefit cost</b>	<b>19,343</b>	<b>22,078</b>	<b>38,894</b>	<b>1,144</b>
<b>Changes in benefit obligation</b>				
Benefit obligation at beginning of year	58,009	70,572	122,148	3,594
Service cost	23,363	21,323	36,130	1,063
Interest cost	3,384	3,529	5,039	148
Curtailments	(7,180)			
Actuarial loss (gain)	(7,004)	26,724	24,340	716
<b>Benefit obligation at end of year</b>	<b>70,572</b>	<b>122,148</b>	<b>187,657</b>	<b>5,521</b>
<b>Changes in plan assets</b>				
Fair value of plan assets at beginning of year	33,101	49,610	66,005	1,942
Acquisition of subsidiary			10,235	301
Actual return on plan assets	1,655	1,306	1,168	34
Employer contribution	14,886	15,089	20,655	608
	49,642	66,005	98,063	2,885
<b>Funds status</b>	<b>(20,930)</b>	<b>(56,143)</b>	<b>(89,594)</b>	<b>(2,636)</b>
Unrecognized actuarial loss (gain)	(181)	28,043	31,335	922
<b>Net amount recognized (recognized as accrued pension cost)</b>	<b>(21,111)</b>	<b>(28,100)</b>	<b>(58,259)</b>	<b>(1,714)</b>
<b>Actuarial assumptions</b>				
Discount rate	5.00%	3.50%	3.25%	3.25%
Rate of compensation increase	4.50%	3.50%	3.25%	3.25%

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Expected return on plan assets	5.00%	3.50%	3.25%	3.25%
--------------------------------	-------	-------	-------	-------

The accumulated benefit obligation for all defined benefit pension plans was NT\$55,647 thousand and NT\$93,016 thousand at December 31, 2002 and 2003, respectively.

There were no pension plans with an accumulated benefit obligation in excess of plan assets as of December 31, 2002 and 2003.

The plan assets are all invested in the Central Trust of China.

ChipMOS Taiwan and ThaiLin anticipate contributing NT\$25,878 thousand to its pension plans during 2004.

The Company has no other post-retirement or post-employment benefit plans.

F-55

**Table of Contents****28. ADDITIONAL DISCLOSURES REQUIRED BY U.S. GAAP (continued)**

## e. Statements of cash flows

ROC SFAS No. 17, Statement of Cash Flows has been applied. Its objectives and principles are similar to those set out in SFAS No. 95, Statement of Cash Flows. The principal differences between the standards relate to classification. Cash flows from changes in short-term investments, refundable deposits, other assets and guarantee deposits and bonus to directors and supervisors are included as operating activities under SFAS No. 95. Summarized cash flow data by operating, investing and financing activities in accordance with SFAS No. 95 are as follows:

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
			(in thousands)	
Net cash inflow (outflow) from:				
Operating activities	2,714,786	1,558,536	1,917,388	56,410
Investing activities	(1,703,033)	(3,387,689)	(1,399,536)	(41,175)
Financing activities	(419,158)	3,135,700	(1,844,776)	(54,274)
	592,595	1,306,547	(1,326,924)	(39,039)
Effect of changes in foreign exchange rate	(391)		(31,388)	(923)
Cash and cash equivalents at the beginning of year	1,190,525	1,782,729	3,089,276	90,888
Cash and cash equivalents at the end of year	1,782,729	3,089,276	1,730,964	50,926

## f. Statements of comprehensive income (loss)

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
			(in thousands)	
Net income (loss) based on U.S. GAAP	(993,523)	(913,379)	485,284	14,277
Other comprehensive income (loss):				
Reversal of unrealized (gain) loss on available-for-sale security	38,906	(107,073)		
Unrealized gain (loss) on available-for-sale security	107,073	55,763		
Realised gain due to change to short term investment			(55,763)	(1,641)
Translation adjustment	(272)	(34)	(31,388)	(923)
Comprehensive income (loss)	(847,816)	(964,723)	398,133	11,713

Components in other comprehensive income (loss) refer to investments in Ultima. Under ROC laws, those losses and gains are not subject to income tax. Therefore, no tax expense or benefit are allocated to such investments.



**Table of Contents****28. ADDITIONAL DISCLOSURES REQUIRED BY U.S. GAAP (continued)**

## g. Statements of accumulated comprehensive income (loss)

	Unrealized Gain (Loss) on Long-Term Investments	Translation Adjustment	Accumulated Other Comprehensive Income (loss)
	NT\$	NT\$ (in thousands)	NT\$
Balance, as of December 31, 2001	107,073	(478)	106,595
Addition in 2002	(51,310)	(34)	(51,344)
Balance, as of December 31, 2002	55,763	(512)	55,251
Addition in 2003	(55,763)	(31,388)	(87,151)
Balance, as of December 31, 2003		(31,900)	(31,900)

## h. Shareholders' equity

Employee stock-based compensation has been accounted for under the intrinsic value based method as prescribed by Accounting Principles Board APB Opinion No. 25. The disclosure provisions of SFAS No. 123 Accounting for Stock-Based Compensation has been applied to employee stock-based compensation.

The Company has in place a Share Option Plan (2001 Plan). Under the terms of the plan, the exercise price set on the grant of share options may not be less than the par value of a Company Share on the date of grant of such option. As at December 31, 2003, the number of shares that may be issued under the plan is 5,800,000 shares and may consist in whole or part of authorized but unissued shares of the Company which are not reserved for any other purpose. No consideration is payable for the grant of an option.

Under the plan, options may be granted to all directors, officers, employees and consultants of the Company and its affiliates. Options are exercisable for a maximum of ten years from the date on which such option is granted and five years from the date on which such option is granted if the holder of the option owns more than 10% of the combined voting power of the Company at the time the option is granted.

The following summarises the share option transactions relating to the share option plan:

	Shares	Weighted average exercise price
	(in thousand)	US\$
Options outstanding at December 31, 2001		
Granted	3,406	3.9412

Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

Exercised	(531)	3.4200
Forfeited	(274)	4.0375
Options outstanding at December 31, 2002	2,601	4.0375
Granted	3,465	1.0098
Exercised	(427)	3.2910
Forfeited	(334)	3.4070
Options outstanding at December 31, 2003	5,304	2.1597
Options exercisable at December 31, 2002		
Options exercisable at December 31, 2003	793	1.8148

The weighted average fair value of options granted under the plan in the years ended December 31, 2003 and 2002 was US\$1.754 and US\$3.02, respectively.

F-57

**Table of Contents****28. ADDITIONAL DISCLOSURES REQUIRED BY U.S. GAAP (continued)**

The fair value of each option grant has been estimated on the date of grant using the Black-Scholes option pricing model using the following weighted average assumptions.

	2003				2002
	020403ESOP	030613ESOP	031001ESOP	031103ESOP	020403ESOP
Risk-free interest rate	4.75%	4.75%	4.75%	4.75%	4.75%
Expected life	5 years	3 years	3 years	3 years	5 years
Expected volatility	114.91%	148.73%	118.07%	120.72%	114.91%
Expected dividend yield	0%	0%	0%	0%	0%

In 2002 and 2003 the Company has recorded compensation expense of NT\$25,157 thousand and NT\$27,985 thousand, respectively in connection with share options issued in 2003 and 2002. Had the fair value method recommended in SFAS 123, the Company's net income and earning per share would have been reduced to the following proforma amounts in 2002 and 2003.

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$
		(in thousands)	
Net income (loss) based on US GAAP	(913,379)	485,284	14,277
Add: Compensation expenses as reported	25,157	27,985	823
Less: Compensation expenses determined under fair value based method	(106,630)	(137,388)	(4,042)
Adjusted net income (loss), fair value based method	(994,852)	375,881	11,058
Basic earnings (loss) per share			
As reported	(15.52)	8.24	0.24
SFAS 123 adjusted	(16.91)	6.38	0.19
Diluted earnings (loss) per share			
As reported	(15.52)	8.17	0.24
SFAS 123 adjusted	(16.91)	6.32	0.19

**Table of Contents****ChipMOS TECHNOLOGIES (Bermuda) LTD. AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)****28. ADDITIONAL DISCLOSURES REQUIRED BY U.S. GAAP (continued)**

The fair value of each option grant has been estimated on the date of grant using the Black-Scholes option pricing model using the following weighted average assumptions.

	2003				2002
	020403ESOP	030613ESOP	031001ESOP	031103ESOP	020403ESOP
Risk-free interest rate	4.75%	4.75%	4.75%	4.75%	4.75%
Expected life	5 years	3 years	3 years	3 years	5 years
Expected volatility	114.91%	148.73%	118.07%	120.72%	114.91%
Expected dividend yield	0%	0%	0%	0%	0%

In 2002 and 2003 the Company has recorded compensation expense of NT\$25,157 thousand and NT\$27,985 thousand, respectively in connection with share options issued in 2003 and 2002. Had the fair value method recommended in SFAS 123, the Company's net income and earning per share would have been reduced to the following proforma amounts in 2002 and 2003.

	December 31,		
	2002	2003	
	NT\$	NT\$	US\$
	(in thousands)		
Net income (loss) based on US GAAP	(913,379)	485,284	14,277
Add: Compensation expenses as reported	25,157	27,985	823
Less: Compensation expenses determined under fair value based method	(106,630)	(137,388)	(4,042)
Adjusted net income (loss), fair value based method	(994,852)	375,881	11,058
Basic earnings (loss) per share			
As reported	(15.52)	8.24	0.24
SFAS 123 adjusted	(16.91)	6.38	0.19
Diluted earnings (loss) per share			
As reported	(15.52)	8.17	0.24
SFAS 123 adjusted	(16.91)	6.32	0.19





**Table of Contents**

## EXHIBIT INDEX

<b>Exhibits</b>	<b>Description</b>
1.1	Memorandum of Association of ChipMOS TECHNOLOGIES (Bermuda) LTD. <sup>(1)</sup>
1.2	Bye-laws of ChipMOS TECHNOLOGIES (Bermuda) LTD. <sup>(2)</sup>
2.1	Certificate of Incorporation of ChipMOS TECHNOLOGIES (Bermuda) LTD., dated August 15, 2000. <sup>(1)</sup>
4.1	Joint Venture Agreement, dated July 14, 1997, between Mosel Vitelic Inc. and Siliconware Precision Industries Co., Ltd. <sup>(1)</sup>
4.2	Asset Sales Agreement, dated June 14, 1999, between Microchip Technology Taiwan and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.3	Tessera Compliant Chip License Agreement, dated April 20, 1999, between Tessera Inc. and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.4	License Agreement, dated April 1, 1999, between Fujitsu Ltd. and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.5	Sales Agreement, dated February 10, 2000, between Sharp Corp. and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.6	Raw Materials Processing Agreement, dated August 10, 2000, between Mosel Vitelic Inc. and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.7	Raw Materials Processing Agreement, dated January 1, 2001, between Siliconware Precision Co. Ltd. and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.8	Integrated Circuit Processing Agreement, dated January 1, 2001, between Siliconware Precision Co. Ltd. and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.9	Integrated Circuit Processing and Warehousing Management Agreement, dated August 10, 2000, between Mosel Vitelic Inc. and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.10	Land Lease Agreement, dated November 26, 1997, between Science Based Industrial Park Administration and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.11	Land Lease Agreement, dated November 26, 1997, between Science Based Industrial Park Administration and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.12	Land Lease Agreement, dated September 1, 1997, between Science Based Industrial Park Administration and ChipMOS TECHNOLOGIES INC. <sup>(1)</sup>
4.13	Purchase Agreement, dated July 31, 1997, between ChipMOS TECHNOLOGIES INC. and Mosel Vitelic Inc. <sup>(1)</sup>
4.14	Lease Agreement for Public Land in Custody of Kaohsiung Branch, Export Processing Zone Administration, Ministry of Economic Affairs, dated June 10, 2002, between Kaohsiung Branch, ChipMOS TECHNOLOGIES INC. and Kaohsiung Branch, Export Processing Zone Administration, Ministry of Economic Affairs. <sup>(1)</sup>
4.15	Form of Share Exchange Covenant Letter from the Company to the Shareholders. <sup>(1)</sup>
4.16	Amendment to the Integrated Circuit Processing and Warehousing Management Agreement, dated August 10, 2000, between Mosel Vitelic Inc. and ChipMOS TECHNOLOGIES INC, dated September 1, 2001. <sup>(3)</sup>
4.17	Purchase Agreement between ChipMOS TECHNOLOGIES INC. and DenMOS Technology Inc. <sup>(3)</sup>
4.18	Sale and Purchase Agreement, dated April 25, 2003, between ChipMOS TECHNOLOGIES INC. and Ron How Investment Corp. (English Translation) <sup>(4)</sup>
4.19	Sale and Purchase Agreement, dated April 25, 2003, between ChipMOS TECHNOLOGIES INC. and Yuan Shan Investment Corp. (English Translation) <sup>(4)</sup>
4.20	Sale and Purchase Agreement, dated April 25, 2003, between ChipMOS TECHNOLOGIES INC. and Mosel Vitelic Inc. (English Translation) <sup>(4)</sup>
4.21	Laser Stamping Machine Lease Agreement, dated November 1, 2002, , between ChipMOS TECHNOLOGIES INC. and CHANTEK ELECTRONIC CO., LTD. (English Translation) <sup>(4)</sup>

## Edgar Filing: CHIPMOS TECHNOLOGIES BERMUDA LTD - Form 20-F

- 4.22 Automatic Stamping Machine Lease Agreement, dated December 1, 2002, between ChipMOS TECHNOLOGIES INC. and CHANTEK ELECTRONIC CO., LTD. (English Translation)<sup>(4)</sup>
- 4.23 Raw Materials Processing Agreement, dated January 1, 2003, between ChipMOS TECHNOLOGIES INC. and CHANTEK ELECTRONIC CO., LTD. (English Translation)<sup>(4)</sup>
- 4.24 Integrated Circuit Processing Agreement, dated January 1, 2003, between ChipMOS TECHNOLOGIES INC. and CHANTEK ELECTRONIC CO., LTD. (English Translation)<sup>(4)</sup>
- 4.25 Technology Transfer Agreement, dated December 24, 2002, between ChipMOS TECHNOLOGIES INC. and ThaiLin Semiconductor Corp. (English Translation)<sup>(4)</sup>

---

**Table of Contents**

4.26	Tester Equipment Lease Agreement, dated November 14, 2002, between ChipMOS TECHNOLOGIES INC. and ThaiLin Semiconductor Corp. (English Translation) <sup>(4)</sup>
4.27	Tester Equipment Lease Agreement, dated December 3, 2002, between ChipMOS TECHNOLOGIES INC. and ThaiLin Semiconductor Corp. (English Translation) <sup>(4)</sup>
4.28	Joint Engagement Letter, undated, by and among Ultima Electronics Corp., ChipMOS TECHNOLOGIES INC. and Sun-Fund Securities Ltd. (English Translation) <sup>(4)</sup>
4.29	Lease Agreement, dated June 1, 2002, between ChipMOS TECHNOLOGIES INC. and SyncMOS Technologies, Inc. (English Translation) <sup>(4)</sup>
4.30	Technology Transfer Agreement, dated August 1, 2002, between ChipMOS TECHNOLOGIES (Bermuda) LTD. and ChipMOS TECHNOLOGIES (Shanghai) LTD. <sup>(4)</sup>
4.31	Promissory Note from Modern Mind Technology Limited to Jesper Limited, dated November 4, 2002. <sup>(4)</sup>
4.32	Deed of Variation, dated December 2, 2002, between Modern Mind Technology Limited to Jesper Limited. <sup>(4)</sup>
4.33	Deed of Assignment, dated December 27, 2002, between Jesper Limited and ChipMOS TECHNOLOGIES (Bermuda) LTD. <sup>(4)</sup>
4.34	Deed of Assignment, dated June 25, 2003, between Jesper Limited and ChipMOS TECHNOLOGIES INC. <sup>(4)</sup>
4.35	Agreement, dated May 3, 2003, between Jesper Limited and ChipMOS TECHNOLOGIES (Bermuda) LTD. <sup>(4)</sup>
4.36	Cooperation Agreement, dated March 27, 2002 between Shanghai Qingpu Industrial Zone Development (Group) Company and Modern Mind Technology Limited. (English Translation). <sup>(4)</sup>
4.37	Deed of assignment, dated December 17, 2003, between ChipMOS TECHNOLOGIES INC. and ChipMOS TECHNOLOGIES (Bermuda) LTD.
4.38	Supplemental deed of assignment, dated May 14, 2004 between ChipMOS TECHNOLOGIES INC. and ChipMOS TECHNOLOGIES (Bermuda) LTD.
4.39	Assignment agreement, dated April 7, 2004, between ChipMOS TECHNOLOGIES (Bermuda) LTD. and ChipMOS TECHNOLOGIES INC.
4.40	Supplemental assignment agreement, dated May 14, 2004, between ChipMOS TECHNOLOGIES (Bermuda) LTD. and ChipMOS TECHNOLOGIES INC.
4.41	Patent license agreement, dated April 7, 2004, between ChipMOS TECHNOLOGIES (Bermuda) LTD. and ChipMOS TECHNOLOGIES INC
8.1	List of subsidiaries of ChipMOS TECHNOLOGIES (Bermuda) LTD.
11.1	Code of Business Conduct and Ethics.
12.1	Certification of Chief Executive Officer required by Rule 13a-14(a) under the Exchange Act
12.2	Certification of Chief Financial Officer required by Rule 13a-14(a) under the Exchange Act
13.1	Certification of Chief Executive Officer required by Rule 13a-14(b) under the Exchange Act
13.2	Certification of Chief Financial Officer required by Rule 13a-14(b) under the Exchange Act
23.1	Consent of auditors.

- 
- (1) Incorporated by reference to our Registration Statement on Form F-1 (File No. .333-13218), filed on February 28, 2001.
  - (2) Incorporated by reference to our report on Form 6-K, dated February 19, 2002.
  - (3) Incorporated by reference to our Annual Report on Form 20-F (File No. 0-31106), filed on June 17, 2002.
  - (4) Incorporated by reference to our Annual Report on Form 20-F (File No. 0-31106), filed on June 30, 2003.