

UNITED MICROELECTRONICS CORP  
Form 20-F  
June 17, 2004  
Table of Contents

---

**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

**Washington, D.C. 20549**

---

**FORM 20-F**

(Mark One)

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 1-15128

**United Microelectronics Corporation**

(Exact Name of Registrant as Specified in Its Charter)

**Taiwan, Republic of China**

(Jurisdiction of Incorporation or Organization)

**No. 3 Li-Hsin Road II, Hsinchu Science Park,**

**Hsinchu City, Taiwan, ROC**

(Address of Principal Executive Offices)

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

**Title of Each Class**

**Name of Each Exchange on Which Registered**

None

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

**Common Shares, par value NT\$10 per share**

(Title of Class)

(Title of Class)

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

None

(Title of Class)

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

**15,941,901,463 Common Shares**

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

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

**(APPLICABLE ONLY TO ISSUERS INVOLVED IN BANKRUPTCY PROCEEDINGS DURING THE PAST FIVE YEARS.)**

Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Section 12, 13 or 15(d) of the Securities Exchange Act of 1934 subsequent to the distribution of securities under a plan confirmed by a court.

Yes  No

---

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION**

**FORM 20-F ANNUAL REPORT**

**FISCAL YEAR ENDED DECEMBER 31, 2003**

**Table of Contents**

	<b>Page</b>
<u>SUPPLEMENTAL INFORMATION</u>	1
<u>FORWARD-LOOKING STATEMENTS IN THIS ANNUAL REPORT MAY NOT BE REALIZED</u>	1
<u>GLOSSARY</u>	3
<b><u>PART I</u></b>	6
ITEM 1. <u>IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS</u>	6
ITEM 2. <u>OFFER STATISTICS AND EXPECTED TIMETABLE</u>	6
ITEM 3. <u>KEY INFORMATION</u>	6
ITEM 4. <u>INFORMATION ON THE COMPANY</u>	22
ITEM 5. <u>OPERATING AND FINANCIAL REVIEW AND PROSPECTS</u>	40
ITEM 6. <u>DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES</u>	58
ITEM 7. <u>MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS</u>	65
ITEM 8. <u>FINANCIAL INFORMATION</u>	67
ITEM 9. <u>THE OFFER AND LISTING</u>	68
ITEM 10. <u>ADDITIONAL INFORMATION</u>	70
ITEM 11. <u>QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK</u>	85
ITEM 12. <u>DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES</u>	87
<b><u>PART II</u></b>	87
ITEM 13. <u>DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES</u>	87
ITEM 14. <u>MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS</u>	87
ITEM 15. <u>CONTROLS AND PROCEDURES</u>	87
ITEM 16A. <u>AUDIT COMMITTEE FINANCIAL EXPERT</u>	87
ITEM 16B. <u>CODE OF ETHICS</u>	88

**Table of Contents**

ITEM 16C.	<u>PRINCIPAL ACCOUNTANT FEES AND SERVICES</u>	88
<b><u>PART III</u></b>		89
ITEM 17.	<u>FINANCIAL STATEMENTS</u>	89
ITEM 18.	<u>FINANCIAL STATEMENTS</u>	89
ITEM 19.	<u>EXHIBITS</u>	90

**Table of Contents**

**SUPPLEMENTAL INFORMATION**

As more fully described in this annual report, United Integrated Circuits Corporation, a subsidiary, and United Semiconductor Corporation, United Silicon Incorporated and UTEK Semiconductor Corporation, our affiliates, were merged into United Microelectronics in January 2000. Capacity utilization rate and wafer output data, which do not require any intercompany eliminations, are presented where indicated on a combined basis in this annual report, which means that we have aggregated the capacity utilization rate and wafer output data of United Microelectronics and UTEK Semiconductor Corporation, United Silicon Incorporated, United Semiconductor Corporation and, for 1998, United Integrated Circuits Corporation. Unless otherwise indicated in this annual report, our operational data is presented on a consolidated basis, which represents the consolidated data of United Microelectronics and its consolidated subsidiaries.

The references to United Microelectronics, we, us, our and our company in this annual report refer to the combined entity, and if the reference to a time prior to the merger, refer to the combined entity as if the merger had already occurred. The references to United Semiconductor, United Silicon, United Integrated Circuits, UTEK Semiconductor, UMCJ and UMCi are to United Semiconductor Corporation, United Silicon Incorporated, United Integrated Circuits Corporation, UTEK Semiconductor Corporation (formerly Holtek Semiconductor), UMC JAPAN (formerly Nippon Foundry Inc.) and UMCi Ltd. (formerly UMCi Pte Ltd), respectively. The references to Taiwan and ROC refer to Taiwan, Republic of China. The references to shares and common shares refer to our common shares, par value NT\$10 per share, and ADSs refers to our American depositary shares, each representing five common shares. The ADSs are issued under the Deposit Agreement, dated as of September 21, 2000, as amended, supplemented or modified from time to time, among United Microelectronics, Citibank N.A. and the holders and beneficial owners from time to time of American Depositary Receipts issued thereunder. ROC GAAP means the generally accepted accounting principles of the ROC and US GAAP means the generally accepted accounting principles of the United States. Any discrepancies in any table between totals and sums of the amounts listed are due to rounding.

We publish our financial statements in New Taiwan dollars, the lawful currency of the ROC. In this annual report, NT\$ and NT dollars mean New Taiwan dollars, \$, US\$ and U.S. dollars mean United States dollars, ¥ means Japanese Yen, S\$ means Singapore dollars and mean

**FORWARD-LOOKING STATEMENTS IN THIS ANNUAL REPORT**

**MAY NOT BE REALIZED**

Our disclosure and analysis in this annual report contain or incorporate by reference some forward-looking statements. Our forward-looking statements contain information regarding, among other things, our financial condition, future expansion plans and business strategy. We have based these forward-looking statements on our current expectations and projections about future events. You can identify these statements by the fact that they do not relate strictly to historical or current facts. Although we believe that these expectations and projections are reasonable, such forward-looking statements are inherently subject to risks, uncertainties and assumptions about us, including, among other things:

our dependence on frequent introduction of new services and technologies based on the latest developments;

the intensely competitive semiconductor, personal computer and communication industries and markets;

risks associated with international global business activities;

our dependence on key personnel;

natural disasters, such as earthquakes and droughts, which are beyond our control;

general economic and political conditions, including those related to the semiconductor, personal computer and communication industries;

**Table of Contents**

possible disruptions in commercial activities caused by natural and human-induced disasters, including terrorist activity, that may reduce end-user purchases relative to expectations and orders;

fluctuations in foreign currency exchange rates;

additional disclosures we make in our previous and future Form 20-F annual reports and Form 6-K periodic reports to the SEC; and

those other risks identified in Item 3. Key Information D. Risk Factors of this annual report.

The words anticipate, believe, estimate, expect, intend, plan and similar expressions, as they relate to us, are intended to identify a number of risks that could affect our business in these forward-looking statements. We undertake no obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise. In light of these risks, uncertainties and assumptions, the forward-looking events discussed in this annual report might not occur and our actual results could differ materially from those anticipated in these forward-looking statements.



**Table of Contents****GLOSSARY**

ASIC	Application Specific Integrated Circuit. A custom-designed integrated circuit that performs specific functions which would otherwise require a number of off-the-shelf integrated circuits to perform.
BICMOS	Bipolar CMOS. An integrated circuit fabrication technology that produces both bipolar transistors and CMOS transistors and combines them on one chip.
Cell	Semiconductor structure in an electrical state which can store a bit of information, mainly used as the building block of memory array.
CMOS	Complementary Metal Oxide Silicon, which consists of N-channel and P-channel metal oxide silicon transistors. Currently the most common used integrated circuit component.
Deep Trench DRAM	Capacitor of DRAM built into a trench etched in the semiconductor substrate. By using a trench configuration, the capacitor can be expanded, increasing its capacity without increasing the portion of the wafer surface needed for the embedded capacitor.
Die	A piece of a semiconductor wafer containing the circuitry of an unpackaged single chip.
DRAM	Dynamic Random Access Memory. A type of volatile memory product that is used in electronic systems to store data and program instructions. It is the most common type of RAM and must be refreshed with electricity hundreds of times per second or else it will fade away.
Digital signal processor	A type of integrated circuit that processes and manipulates digital information after it has been converted from an analog source.
Flash memory	A type of non-volatile memory that is erasable and reprogrammable. It can be erased and reprogrammed in the electronic system into which the flash memory chip has been incorporated.
FSG	Fluoridated Silicon Glass. Fluorine is added to SiO <sub>2</sub> , reducing the dielectric constant of a glass from 3.9 to about 3.5
Integrated circuit	Entire electronic circuit built on a single piece of solid substrate and enclosed in a small package. The package is equipped with leads needed to electrically integrate the integrated circuit with a larger electronic system. Monolithic and hybrid integrated circuits are distinguished by the type of substrate used.
Interconnect	The conductive path made from copper or aluminum that is required to achieve connection from one circuit element to the other circuit elements within a circuit.
Logic device	A device that contains digital integrated circuits that process, rather than store, information.
Low-k dielectric insulation	Insulating material used to separate interconnect wiring layers. A low dielectric constant $k$ is desired in the insulator in order to minimize

**Table of Contents**

	parasitic capacitance, which acts as a drag on system performance, or clock speed.
Mask	Photomask. A piece of glass on which an integrated circuit circuitry design is laid out.
Memory	A group of integrated circuits that a computer uses to store data and programs, such as ROM, RAM, DRAM and SRAM.
Micron	A unit of spatial measurement that is one-millionth of a meter.
Nanometer	A unit of spatial measurement that is one-billionth of a meter.
Nonvolatile memory	Memory products which retain their data content without the need for constant power supply.
PC	Personal computer.
RAM	Random Access Memory. A type of volatile memory forming the main memory of a computer where applications and files are run.
ROM	Read-Only Memory. Memory that is programmed by the manufacturer and cannot be changed. Typically, ROM is used to provide start-up data when a computer is first turned on.
Scanner	A photolithography tool used in the production of semiconductor devices. This camera-like step-and-scan tool projects the image of a circuit from a master image onto a photosensitized silicon wafer.
Semiconductor	A material with electrical conducting properties in between those of metals and insulators. Essentially, semiconductors transmit electricity only under certain circumstances, such as when given a positive or negative electric charge. Therefore, a semiconductor's ability to conduct can be turned on or off by manipulating those charges and this allows the semiconductor to act as an electric switch. The most common semiconductor material is silicon, used as the base of most semiconductor chips today because it is relatively inexpensive and easy to create.
SOC	System-On-Chip. A chip that incorporates functions currently performed by several chips on a cost effective basis.
SOI	Silicon-On-Insulator. Silicon wafer consisting of a thin layer of oxide, on top of which semiconductor devices are built.
SRAM	Static Random Access Memory. A type of volatile memory product that is used in electronic systems to store data and program instructions. Unlike the more common DRAM, it does not need to be refreshed.
Stepper	A machine used in the photolithography process in making wafers. With a stepper, a small portion of the wafer is aligned with the mask upon which the circuitry design is laid out and is then exposed to the light source. The machine then steps to the next area repeating the process until the entire wafer has been done.

**Table of Contents**

Transistor	Tri-terminal semiconductor device in which input signal (voltage or current depending on the type of transistor) controls output current. An individual circuit that can amplify or switch electric current. This is the building block of all integrated circuits.
Volatile memory	Memory products which lose their data content when the power supply is switched off.
Wafer	Thin, round, flat piece of silicon that is the base of most integrated circuits.
8-inch wafer equivalents	Standard unit describing the equivalent amount of 8-inch wafers produced after conversion, used to quantify levels of wafer production for purposes of comparison. Figures of 8-inch wafer equivalents are derived by converting the number of wafers of all dimensions (e.g., 6-inch, 8-inch, 12-inch) into their equivalent figures for 8-inch wafers. 100 6-inch wafers are equivalent to 56.25 8-inch wafers. 100 12-inch wafers are equivalent to 225 8-inch wafers.

**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**

**A. Selected Financial Data**

The selected balance sheet data as of December 31, 2002 and 2003 and the selected statements of income and cash flow data for the years ended December 31, 2001, 2002 and 2003 are derived from our audited consolidated financial statements included elsewhere in this annual report. The selected balance sheet data as of December 31, 1999, 2000 and 2001 and the selected statements of income and cash flow data for the years ended December 31, 1999 and 2000 are derived from our audited consolidated financial statements not included in this annual report.

Our financial statements have been prepared and presented in accordance with generally accepted accounting principles in the ROC, or ROC GAAP, which differ in many material respects from generally accepted accounting principles in the United States, or US GAAP. For a discussion of these differences, see Note 31 to our audited consolidated financial statements included elsewhere in this annual report. Some of the statements of income, cash flow and balance sheet data items have been reconciled to US GAAP and are set forth below. The summary financial data set forth below should be read in conjunction with Item 5. Operating and Financial Review and Prospects and our financial statements and the notes to those statements included elsewhere in this annual report.

United Microelectronics completed a merger on January 3, 2000 with one subsidiary and three affiliates that were not consolidated in prior periods. Therefore, the historical information for periods prior to January 1, 2000 is not comparable to the information for 2000 and subsequent periods.

Income before income tax and minority interest is inclusive of income recognized on pre-acquired business operations. These amounts, nil, NT\$29 million and nil for 2001, 2002 and 2003, respectively, were removed through an adjustment to minority interest.

**Table of Contents**

	Year Ended December 31,					
	1999	2000	2001	2002	2003	
	NT\$	NT\$	NT\$	NT\$	NT\$	US\$
(in millions, except per share and per ADS data)						
<b>Consolidated Statement of Income Data:</b>						
<b>ROC GAAP</b>						
Net operating revenues	33,735	115,609	69,817	75,425	95,704	2,815
Costs of goods sold	24,828	57,411	60,568	62,887	73,938	2,175
Gross profit	8,907	58,198	9,249	12,538	21,766	640
Operating expenses:						
Sales and marketing	407	1,153	2,276	1,527	2,171	64
General and administrative	1,288	3,196	4,425	3,531	3,996	118
Research and development	3,131	6,306	8,960	7,368	5,859	172
Total operating expenses	4,826	10,655	15,661	12,426	12,026	354
Operating income (loss)	4,081	47,543	(6,412)	112	9,740	286
Net non-operating income (expense)	18,178	4,786	(154)	6,904	4,956	146
Income (loss) before income tax and minority interest	22,259	52,329	(6,566)	7,016	14,696	432
Income tax (expense) benefit	(829)	91	3,040	(271)	(980)	(29)
Minority interest (income) loss	(10,932)	(1,640)	369	327	304	9
Net income (loss)	10,498	50,780	(3,157)	7,072	14,020	412
Earnings (Loss) per share: <sup>(1)</sup>						
Basic	0.97	3.34	(0.20)	0.46	0.92	0.03
Diluted <sup>(2)</sup>	0.97	3.34	(0.20)	0.46	0.90	0.03
Shares used in earnings (loss) per share calculation:						
Basic	10,796	15,186	15,577	15,402	15,313	15,313
Diluted <sup>(2)</sup>	10,796	15,186	15,577	15,602	15,664	15,664
Earnings (loss) per ADS:						
Basic	4.85	16.70	(1.00)	2.30	4.60	0.14
Diluted <sup>(2)</sup>	4.85	16.70	(1.00)	2.30	4.50	0.13
<b>US GAAP</b>						
Net (loss) income	4,747	27,134	(23,247)	294	10,476	308
Earnings (loss) per share: <sup>(1)</sup>						
Basic	0.46	1.84	(1.52)	0.02	0.69	0.02
Diluted <sup>(2)</sup>	0.46	1.84	(1.52)	0.02	0.67	0.02
Shares used in earnings (loss) per share calculation:						
Basic	10,374	14,748	15,260	15,243	15,282	15,282
Diluted <sup>(2)</sup>	10,374	14,748	15,260	15,320	15,640	15,640
Earnings (loss) per ADS:						
Basic	2.30	9.20	(7.60)	0.10	3.45	0.10
Diluted <sup>(2)</sup>	2.30	9.20	(7.60)	0.10	3.35	0.10

As of December 31,

1999	2000	2001	2002	2003
------	------	------	------	------

Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

	NT\$	NT\$	NT\$	NT\$	NT\$	US\$
	(in millions)					
<b>Consolidated Balance Sheet Data:</b>						
<b>ROC GAAP</b>						
Current assets	39,382	96,760	100,787	110,922	154,322	4,540
Long-term investment	59,565	39,515	40,757	37,800	38,919	1,145
Property, plant and equipment	43,720	163,415	169,121	167,077	149,557	4,400
Total assets	148,369	309,789	320,694	327,029	354,514	10,430
Current liabilities	24,650	42,107	34,524	29,147	44,140	1,299
Long-term debt (excluding current portion)	10,695	35,534	54,695	62,321	60,334	1,775
Total liabilities	35,852	80,687	91,778	93,581	107,203	3,154
Stockholders' equity	102,620	219,948	213,322	217,424	232,233	6,832
<b>US GAAP</b>						
Cash and cash equivalents	24,728	60,350	57,826	54,219	89,196	2,624
Working capital <sup>(3)</sup>	13,945	51,212	66,837	72,505	104,556	3,076
Total assets	145,621	421,738	456,879	442,645	486,360	14,309
Stockholders' equity	89,877	326,985	349,492	334,025	362,396	10,662

**Table of Contents**

	As of December 31,					
	1999	2000	2001	2002	2003	
	NT\$	NT\$	NT\$	NT\$	NT\$	US\$
<b>Other Consolidated Data:</b>						
<b>ROC GAAP</b>						
Cash flow:						
Depreciation	6,386	24,403	34,390	36,568	39,233	1,154
Capital expenditure	19,047	83,483	43,051	35,978	24,820	730
Cash provided by operating activities.	10,977	68,077	40,187	30,527	49,625	1,460
Cash used in investing activities	(20,837)	(73,683)	(43,257)	(36,439)	(24,114)	(709)
Cash provided by financing activities	9,486	41,411	18,184	3,162	17,581	517
Net cash flow	4	35,668	14,434	(2,002)	43,869	1,291
Gross profit margin	26.4%	50.3%	13.2%	16.6%	22.7%	22.7%
Operating profit (loss) margin	12.1%	41.1%	(9.2)%	0.1%	10.2%	10.2%
Net profit (loss) margin	31.1%	43.9%	(4.5)%	9.4%	14.6%	14.6%
Capacity utilization rate (on a combined basis for 1999; and on an actual basis for 2000, 2001, 2002 and 2003) <sup>(4)</sup>	92.6%	100.0%	46.6%	65.2%	84.8%	84.8%
Dividends declared per share <sup>(5)</sup>	0.15	0.20	0.15	0.15	0.04	0.001
<b>US GAAP</b>						
Cash flow:						
Depreciation	6,392	24,406	34,395	36,572	39,241	1,154
Capital expenditure	19,048	83,501	43,054	36,008	24,827	730
Cash provided by operating activities	11,188	67,977	39,785	30,506	49,543	1,458
Cash used in investing activities	(17,082)	(73,516)	(60,259)	(38,035)	(32,923)	(969)
Cash provided by financing activities	9,685	41,388	18,617	3,162	17,587	517
Net cash flow	4,164	35,622	(2,524)	(3,607)	34,977	1,029
Gross profit margin	23.2%	44.1%	5.9%	8.2%	19.0%	19.0%
Operating (loss) profit margin	6.3%	24.5%	(34.7)%	(11.0)%	5.8%	5.8%
Net (loss) profit margin	14.1%	23.5%	(33.3)%	0.4%	10.9%	10.9%

(1) Earnings (loss) per share is calculated by dividing net income by the weighted average number of shares outstanding during the year.

(2) Diluted securities include convertible bonds and employee stock options.

(3) Working capital equals current assets minus current liabilities.

(4) Capacity utilization rate, on a combined basis, includes our consolidated subsidiaries as well as United Semiconductor, United Silicon and UTEK Semiconductor in 1999.

(5) Dividends declared per share are in connection with earnings and accumulated capital reserve.

**Table of Contents****Currency Translations and Exchange Rates**

In portions of this annual report, we have translated New Taiwan dollar amounts into U.S. dollars for the convenience of readers. The rate we used for the translations was NT\$33.99 = US\$1.00, which was the noon buying rate announced by the Federal Reserve Bank of New York on December 31, 2003. The translation does not mean that New Taiwan dollars could actually be converted into U.S. dollars at that rate. The following table shows the noon buying rates for New Taiwan dollars expressed in New Taiwan dollar per US\$1.00.

	<b>Average (of Month-End Rates)</b>	<b>High</b>	<b>Low</b>	<b>At Period-End</b>
1998	33.498	35.000	32.050	32.270
1999	32.281	33.400	31.390	31.390
2000	31.366	33.250	30.350	33.170
2001	33.911	35.130	32.230	35.000
2002	34.526	35.160	32.850	34.700
2003	34.399	34.980	33.720	33.990
December	34.056 <sup>(1)</sup>	34.150	33.990	33.990
2004 (through May 28)	33.260	33.980	32.730	33.360
January	33.669 <sup>(1)</sup>	33.980	33.330	33.390
February	33.214 <sup>(1)</sup>	33.360	33.100	33.280
March	33.252 <sup>(1)</sup>	33.420	33.000	33.000
April	32.970 <sup>(1)</sup>	33.270	32.730	33.270
May	33.444 <sup>(1)</sup>	33.700	33.140	33.360

<sup>(1)</sup> Monthly averages are calculated using the average of the daily rates during the relevant period.



## **Table of Contents**

### **B. Capitalization and Indebtedness**

Not applicable.

### **C. Reasons for the Offer and Use of Proceeds**

Not applicable.

### **D. Risk Factors**

*Our business and operations are subject to various risks, many of which are beyond our control. If any of the risks described below actually occurs, our business, financial condition or results of operations could be seriously harmed.*

#### **Risks Related to Our Business and Financial Condition**

*The cyclical nature of the semiconductor industry and periodic overcapacity make us particularly vulnerable to significant and sometimes prolonged economic downturns.*

The semiconductor industry has historically been highly cyclical and, at various times, has experienced significant downturns. Since most of our customers operate in semiconductor-related industries, variations in order levels from our customers can result in volatility in our revenues and earnings. Because our business is, and will continue to be, largely dependent on the requirements of semiconductor companies for our services, downturns in the semiconductor industry will lead to reduced demand for our services. For example, the semiconductor industry experienced a period of economic downturn beginning in the fourth quarter of 2000 until early 2003, due to a number of factors including a slowdown in the global economy, overcapacity in the semiconductor industry and a worldwide inventory adjustment. As a result of the downturn, our net revenue for 2001 decreased 39.6% from 2000, and we incurred a net loss of NT\$3,157 million for 2001 compared to a net income of NT\$50,780 million for 2000. Although the semiconductor industry has recovered from the downturn since early 2003 and our net revenue for 2003 increased 26.9 % from 2002, and we generated a net income of NT\$14,020 million (US\$412 million) in 2003 compared to a net income of NT\$7,072 million in 2002, we cannot give any assurance that the recovery will continue or that any future downturn will not affect our results of operations.

*Our operating results fluctuate from quarter to quarter, which makes it difficult to predict our future performance.*

Our revenues, expenses and results of operations have varied significantly in the past and may fluctuate significantly from quarter to quarter in the future due to a number of factors, many of which are beyond our control. Our business and operations have at times in the past been negatively affected by, and are expected to continue to be subject to the risk of, the following factors:

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

changes in general economic and business conditions, including those directly and indirectly related to the aftermath of terrorist attacks in the United States on September 11, 2001;

the cyclical nature of both the semiconductor industry and the markets served by our customers;

our customers' adjustments in their inventory;

the loss of a key customer or the postponement of orders from a key customer;

the rescheduling and cancellation of large orders;

our ability to obtain equipment, raw materials, electricity, water and other required utilities on a timely and economic basis;

## **Table of Contents**

outbreaks of contagious diseases, including severe acute respiratory syndrome, or SARS;

environmental events, such as fires and earthquakes, or industrial accidents; and

technological changes.

Due to the factors noted above and other risks discussed in this section, many of which are beyond our control, you should not rely on quarter-to-quarter comparisons to predict our future performance. Unfavorable changes in any of the above factors may seriously harm our business, financial condition and results of operations. In addition, our operating results may be below the expectations of public market analysts and investors in some future periods. In this event, the price of the shares or ADSs may underperform or fall.

***A decrease in demand for or selling prices of communication applications, consumer electronics and personal computers may decrease the demand for our services and reduce our margins.***

Our customers generally use the semiconductors produced in our fabs in a wide variety of applications. We derive a significant percentage of our operating revenues from customers who use our manufacturing services to make semiconductors for communication applications, consumer electronics and personal computers. Our products for communication applications, consumer electronics, personal computers, memory and other applications generated 41.6%, 28.1%, 25.4%, 3.3% and 1.6%, respectively, of our net operating revenues in 2003. The communication applications and personal computer markets experienced a sudden and substantial market downturn and inventory correction beginning in the fourth quarter of 2000 until early 2003. This downturn resulted in a reduced demand for our services and hence decreased our revenues and earnings. Any significant decrease in the demand for communication applications, consumer electronics or personal computers may further decrease the demand for our services. In addition, if the average selling prices of communication applications, consumer electronics or personal computers decline significantly, we will be pressured to further reduce our selling prices, which may reduce our revenues and, therefore, reduce our margins significantly. As demonstrated by the downturn in demand for high technology products, market conditions can change rapidly, without apparent warning or advance notice. In such instances, our customers will experience inventory buildup and/or difficulties in selling their products and, in turn, will reduce or cancel orders for wafers from us. While these downturns are to be expected in the semiconductor business, their timing, severity and recovery cannot be predicted accurately or at all. When they occur, our business, profitability and price of the shares and ADSs are likely to suffer.

***Overcapacity in the semiconductor industry may reduce our revenues, earnings and margins.***

The prices that we can charge our customers for our services are significantly related to the overall worldwide supply of integrated circuits and semiconductor products. The overall supply of semiconductor products is based in part on the capacity of other companies, which is outside of our control. Historically, companies in the semiconductor industry have expanded aggressively during periods of increased demand such as was the case in early 2000. As a result, periods of overcapacity in the semiconductor industry have frequently followed periods of increased demand. In a period of overcapacity, if we are unable to offset the adverse effects of overcapacity through, among other things, our technology and product mix, we may have to lower the prices we charge our customers for our services and/or we may have to operate at significantly less than full capacity. Such actions could reduce our margin and weaken our financial condition and results of operations. Due to the decreased demand for semiconductors in 2001 and 2002, our average capacity utilization rate decreased from 100% in 2000 to 46.6% in 2001 and to 65.2% in 2002. Our average capacity utilization rate increased to 84.8% in 2003 mainly due to the recent strong recovery in the semiconductor industry. However, we cannot give any assurance that the increase in the demand for foundry services will not lead to over capacity again in the near future, which could materially adversely affect our revenues, earnings and margins.



## **Table of Contents**

*Any problem in the semiconductor outsourcing infrastructure can adversely affect our net operating revenues and profitability.*

Many of our customers depend on third parties to provide mask tooling, assembly and test services. If these customers cannot timely obtain these services on reasonable terms, they may not order any foundry services from us. This may significantly reduce our net operating revenues and negatively affect our profitability.

*We may be unable to implement new technology as it becomes available, which may result in our loss of customers and market share.*

The semiconductor industry is developing rapidly and the related technology is constantly evolving. If we do not anticipate the technology evolution and rapidly adopt new and innovative technology, we may not be able to produce sufficiently advanced products at competitive prices. There is a risk that our competitors may adopt new technology before we do, resulting in our loss of market share. For example, in 2003, we were the first foundry to deliver working customer products using advanced 90-nanometer copper technology. We are currently actively developing 65-nanometer and 45-nanometer process technologies to significantly increase the competitive advantages of our customers. If we are unable on a timely basis to begin offering these products on a competitive basis, we may lose to our competitors providing similar technologies to customers, which may cause our net operating revenues to decline unless we can replace lost customers with new customers.

*If we lose the support of our technology partners, we may be unable to provide leading technology to our customers.*

Enhancing our manufacturing process technologies is critical to our ability to provide services for our customers. We intend to continue to advance our process technologies through internal research and development and alliances with other companies. Although we have an internal research and development team focused on certain customers developing new semiconductor manufacturing process technologies, we are dependent on our technology partners to advance our portfolio of process technologies. We currently have patent cross-licensing agreements with several companies, including IBM and Texas Instruments. We also depend upon mask and equipment vendors to supply our technology development teams with the masks and equipment needed to continuously develop more advanced processing technologies. If we are unable to continue any of our joint development arrangements, patent cross-licensing agreements, research and development alliances and other agreements, on mutually beneficial economic terms, if we re-evaluate the technological and economic benefits of such relationships, if we are unable to enter into new technology alliances with other leading semiconductor suppliers, or if we fail to secure masks and equipment from our vendors in a timely manner sufficient to support our ongoing technology development, we may lose important customers because we are unable to continue providing our customers with leading edge mass-producible process technologies.

*If we cannot compete successfully in our industry, our business may suffer.*

The worldwide semiconductor foundry industry is highly competitive. We compete with dedicated foundry service providers such as Taiwan Semiconductor Manufacturing Company Limited, Semiconductor Manufacturing International (Shanghai) Corporation, and Chartered Semiconductor Manufacturing Ltd., as well as the foundry operation services of some integrated device manufacturers such as IBM. Integrated device manufacturers principally manufacture and sell their own proprietary semiconductor products, but may also offer foundry service. New competitors such as Dongbu-Anam Semiconductor, Grace Semiconductor Manufacturing Corp., Silterra Malaysia Sdn. Bhd., and 1st Silicon (Malaysia) Sdn. Bhd. have initiated efforts to develop substantial new foundry capacity. New entrants in the foundry business are likely to initiate a trend of competitive pricing and create potential overcapacity in legacy technology. Some of our competitors have greater access to capital and substantially greater production, research and development, marketing and other resources than we do. As a result, these companies may be able to compete more aggressively over a longer period of time than we can.

The principal elements of competition in the wafer foundry market include:

technical competence;

**Table of Contents**

production speed and cycle time;

time-to-market;

research and development quality;

available capacity;

manufacturing yields;

customer service;

price;

management expertise; and

strategic alliances.

Our ability to compete successfully also depends on factors partially outside of our control, including product availability and industry and general economic trends. If we cannot compete successfully in our industry, our business may suffer.

***If we are unable to continuously improve our manufacturing yields, maintain high capacity utilization and optimize the technology mix of our silicon wafer production, our profit margin may substantially decline.***

Our ability to maintain our profitability depends, in part, on our ability to:

maintain our capacity utilization, that is, the wafer-out quantity of eight-inch equivalent wafers divided by estimated total eight-inch equivalent capacity in a specified period. The estimated capacity numbers may differ depending upon equipment delivery schedules, pace of migration to more advanced process technologies and other factors affecting production ramp-ups;

maintain or improve our manufacturing yield, that is, the percentage of usable manufactured devices on a wafer; and

optimize the technology mix of our production, that is, the relative number of wafers manufactured utilizing different process technologies.

Our manufacturing yields directly affect our ability to attract and retain customers, as well as the price of our services. Our capacity utilization affects our operating results because a large percentage of our operating costs are fixed. As a result of a market downturn beginning in the fourth quarter of 2000 until early 2003, our capacity utilization rate, which was 100% in 2000, decreased to 46.6% in 2001 and to 65.2% in 2002. Due

to the recent strong market recovery, our capacity utilization rate increased to 84.8% in 2003. Our technology mix affects utilization of our equipment and process technologies, which can affect our margins. If we are unable to continuously improve our manufacturing yields, maintain high capacity utilization or optimize the technology mix of our wafer production, our profit margin may substantially decline.

*If we are unable to obtain the financing necessary to fund the substantial capital expenditures we expect to incur, we may not be able to implement our planned growth.*

Our business and the nature of our industry require us to make substantial capital expenditures leading to a high level of fixed costs. We expect to incur significant capital expenditures in connection with our growth plans. These capital expenditures will be made in advance of any additional sales to be generated by new or upgraded fabs as a result of these expenditures. Given the fixed-cost nature of our business, we have in the past incurred, and may in



## **Table of Contents**

the future incur, operating losses if our revenues do not adequately offset our capital expenditures. Additionally, our actual expenditures may exceed our planned expenditures for a variety of reasons, including changes in:

our growth plan;

our process technology;

market conditions;

interest rates;

exchange rate fluctuations; and

prices of equipment.

We cannot assure you that additional financing will be available on satisfactory terms, if at all. If adequate funds are not available on satisfactory terms, we may be forced to curtail our expansion plans or delay the deployment of our services, which could result in a loss of customers and limit the growth of our business.

***We depend on a small number of customers for a significant portion of our net operating revenues and a loss of some of these customers would result in the loss of a significant portion of our net operating revenues.***

We have been largely dependent on a small number of customers for a substantial portion of our business. For 2003, our top ten end customers accounted for 53.9% of our net operating revenues. MediaTek, Inc., or MediaTek, in particular, accounted for 10% of our net operating revenues in 2003. We expect that we will continue to be dependent upon a relatively limited number of customers for a significant portion of our net operating revenues. We cannot assure you that our net operating revenues generated from these customers, individually or in the aggregate, will reach or exceed historical levels in any future period. Loss or cancellation of business from significant changes in scheduled deliveries to, or decreases in the prices of services sold to, any of these customers could significantly reduce our net operating revenues.

***Our customers generally do not place purchase orders far in advance, which makes it difficult for us to predict our future revenues, adjust production costs and allocate capacity efficiently on a timely basis.***

Our customers generally do not place purchase orders far in advance (usually two months before shipment). In addition, due to the cyclical nature of the semiconductor industry, our customers' purchase orders have varied significantly from period to period. As a result, we do not typically operate with any significant backlog. The lack of significant backlog makes it difficult for us to forecast our revenues in future periods. Moreover, our expense levels are based in part on our expectations of future revenues and we may be unable to adjust costs in a timely manner to compensate for revenue shortfalls. We expect that in the future our net operating revenues in any quarter will continue to be substantially dependent upon purchase orders received in that quarter.

*We face significant risks, and incur substantial costs, in connection with the construction and operation of our new fab in Singapore.*

In March 2001, we entered into a foundry venture agreement with EDB Investments Pte Ltd., or EDB Investments, and Infineon, relating to the formation of UMCi to construct and operate a 12-inch wafer fab in Singapore's Pasir Ris Wafer Fab Park. Pursuant to the sale and transfer agreements entered in August 2003 and March 2004, we purchased all of the shares of UMCi held by Infineon and EDB Investments. As a result, we held a 95.23% equity interest in UMCi as of March 31, 2004. The facilities of UMCi employ advanced process technology of 0.13-micron and 90-nanometer processes. UMCi began volume production in the first quarter of 2004 and had 3,000 8-inch wafer equivalent manufacturing capacity for the first quarter of 2004.

Doing business in Singapore involves risks related to infrastructure, changes in local laws and economic and political conditions. We have chosen Singapore as the location of the 12-inch fab described above in part to take

## **Table of Contents**

advantage of economic incentives provided under the laws and policies of Singapore. Changes in these or other laws or policies or in the political or economic conditions in Singapore or the surrounding region could have an adverse effect on UMCi's business. In addition, due to the high cost of constructing and purchasing equipment for this new fab in Singapore, we expect that our operations in Singapore could incur significant cash outflows over the next few years. Once a fab is in operation at acceptable capacity and yield rates, it can provide significant cash inflows. However, prior to such time, it may incur significant losses due largely to significant depreciation and amortization expenses, which are not expected to be offset by a significant amount of revenues prior to the completion of the ramp-up process. If UMCi fails to achieve sufficient volumes of production at or above acceptable yield rates, or if the costs of production exceed expectations, our equity interest in UMCi could result in substantial investment losses which may negatively affect our income or loss.

### ***Our inability to obtain, preserve and defend intellectual property rights could harm our competitive position.***

Our ability to compete successfully and achieve future growth will depend, in part, on our ability to protect our proprietary technology and to secure critical processing technology that we do not own at commercially reasonable terms. We cannot assure you that in the future we will be able to independently develop, or secure from any third party, the technology required for upgrading our production facilities. Our failure to successfully obtain such technology may seriously harm our competitive position.

Our ability to compete successfully also depends on our ability to operate without infringing the proprietary rights of others. We have no means of knowing what patent applications have been filed in the United States until they are granted. The semiconductor industry, because of the complexity of the technology used and the multitude of patents, copyrights and other overlapping intellectual property rights, is characterized by frequent litigation regarding patent, trade secret and other intellectual property rights. It is common for patent owners to assert their patents against semiconductor manufacturers. We have received from time to time communications from third parties asserting patents that cover certain of our technologies and alleging infringement of intellectual property rights of others, and we expect to continue to receive such communications in the future. We do not believe that we are currently infringing any patent rights. In the event any third party were to make a valid claim against us or our customers, we could be required to:

seek to acquire licenses to the infringed technology which may not be available on commercially reasonable terms, if at all;

discontinue using certain process technologies, which could cause us to stop manufacturing certain semiconductors;

pay substantial monetary damages; or

seek to develop non-infringing technologies, which may not be feasible.

Any one of these developments could place substantial financial and administrative burdens on us and hinder our business. Litigation, which could result in substantial costs to us and diversion of our resources, may also be necessary to enforce our patents or other intellectual property rights or to defend us or our customers against claimed infringement of the rights of others. If we fail to obtain necessary licenses or if litigation relating to patent infringement or other intellectual property matters occurs, it could hurt our reputation as a technology leader in our industry and prevent us from manufacturing particular products or applying particular technologies, which could reduce opportunities to generate revenues.

***If we lose one or more of our key personnel without adequate replacements, our operations and business will suffer.***

Our future success to a large extent depends on the continued service of our Chairman and key executive officers. We do not carry key person insurance on any of our personnel. If we lose the services of any of our Chairman or key executive officers, it could be difficult to find and integrate replacement personnel in a short period of time, which could harm our operations and the growth of our business.

## **Table of Contents**

*We may have difficulty attracting and retaining skilled employees, who are critical to our future success.*

The success of our business depends upon attracting and retaining experienced executives, engineers and other employees to implement our strategy. The competition for skilled employees is intense. We expect demand for personnel in Taiwan to increase in the future as new wafer fabrication facilities and other businesses are established in Taiwan. We do not have long-term employment contracts with any of our employees. If we were unable to retain our existing personnel or attract, assimilate and recruit new experienced personnel in the future, it could seriously disrupt our operations and delay or restrict the growth of our business.

*Our transactions with affiliates and shareholders may hurt our profitability and competitive position.*

We have provided foundry services to several of our affiliates and shareholders. These transactions were conducted on an arm's-length basis. Other than capacity commitments to our former foundry venture partners, we currently do not provide any preferential treatment to any of these affiliates and shareholders. However, we may in the future reserve or allocate our production capacity to these companies if there is a shortage of foundry services in the market to enable these companies to maintain their operations and/or to protect our investments in them. This reservation or allocation may reduce our capacity available for our other customers, which may damage our relationships with other customers and discourage them from using our services. This may hurt our profitability and competitive position.

*The differences between ROC and U.S. accounting standards affect the amount of our net income.*

Our financial statements are prepared under ROC GAAP, which differ in certain significant respects from US GAAP. For example, ROC GAAP does not require the recognition of the market value of our shares distributed as bonuses to our employees in the calculation of net income. As a result, our net income (loss) in 2001, 2002 and 2003 under US GAAP was NT\$(23,247 million), NT\$294 million and NT\$10,476 million (US\$308 million), respectively, as compared to net income (loss) under ROC GAAP of NT\$(3,157 million), NT\$7,072 million and NT\$14,020 million (US\$412 million) in 2001, 2002 and 2003, respectively. For a discussion of these differences, see Note 31 to our audited consolidated financial statements included elsewhere in this annual report.

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

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, as a result, may 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.

## **Risks Relating to Manufacturing**

*Our manufacturing processes are highly complex, costly and potentially vulnerable to impurities and other disruptions that can significantly increase our costs and delay product shipments to our customers.*

Our manufacturing processes are highly complex, require advanced and costly equipment and are continuously being modified to improve manufacturing yields and product performance. Impurities or other difficulties in the manufacturing process or defects with respect to equipment or supporting facilities can lower manufacturing yields, interrupt production or result in losses of products in process. As system complexity has increased and process technology has become more advanced, manufacturing tolerances have been reduced and requirements for precision have become even more demanding. Although we have been enhancing our manufacturing capabilities and efficiency, from time to time we have experienced production difficulties that have caused delivery delays and quality control problems, as is common in the semiconductor industry. In the past we have encountered the following problems:

capacity constraints due to changes in product mix or the delayed delivery of equipment critical to our production, including steppers and chemical stations;

**Table of Contents**

construction delays during expansions of our clean rooms and other facilities;

difficulties in increasing production at new and existing facilities;

difficulties in upgrading or expanding existing facilities;

changing or upgrading our process technologies; and

raw materials shortages and impurities.

We cannot guarantee that we will be able to increase our manufacturing capacity and efficiency in the future to the same extent as in the past.

In addition, the Taiwan government is currently building a high-speed railway system, which would pass near the Tainan Science Park where our new 12-inch fab, Fab 12A, is located. Trains on this system are expected to begin running as early as late 2005. Once these trains begin running, they would emit microvibrations that some experts predict could interfere with the operation of lithography equipment used for wafer production in Fab 12A, which is close to the affected area. Although we do not believe that such microvibrations may cause serious direct harm to our operations, they could cause our yield rates at this fab to decline and our costs of producing 12-inch wafers to increase, which could negatively affect our results of operations.

*We may have difficulty in ramping up production in accordance with our schedule, which could cause delays in product deliveries and decreases in manufacturing yields.*

As is common in the semiconductor industry, we have from time to time experienced difficulties in ramping up production at new or existing facilities or effecting transitions to new manufacturing processes. As a result, we have suffered delays in product deliveries or reduced manufacturing yields. We may encounter similar difficulties in connection with:

the ramping up of Fab 12A and UMCi;

the migration to more advanced process technologies, such as 90-nanometer process technology; and

the adoption of new materials in our manufacturing processes.

Because we are one of the earliest semiconductor manufacturers in the world to construct 12-inch fabs, we may be subject to risks relating to the construction, ramping up and operation of these facilities. In addition, we cannot assure you that Pasir Ris Wafer Fab Park, the site of UMCi, will be able to provide infrastructure, engineering and other supporting staff and raw material supply comparable to that of the Hsinchu Science Park, where most of our existing fabs are located. In the future, we might face construction delays, interruptions, infrastructure failure and delays in upgrading or expanding existing facilities, or changing our process technologies, any of which might adversely affect our production schedule. Our failure to follow our production schedule could delay the time required to recover our investments and seriously affect our profitability.

*If we are unable to obtain raw materials and equipment in a timely manner, our production schedules could be delayed and we may lose customers.*

We depend on our suppliers for raw materials. To maintain competitive manufacturing operations, we must obtain from our suppliers, in a timely manner, sufficient quantities of quality materials at acceptable prices. Although we source our raw materials from several suppliers, a small number of these suppliers account for a substantial amount of our supply of raw materials because of the consistent quality of these suppliers' wafers. For example, in 2003, we purchased a majority of our silicon wafers from three suppliers, Formosa Komatsu Silicon Corporation, Shin-Etsu Handotai and MEMC Electronic Materials, Inc. We do not have long-term contracts with most of our suppliers. From time to time, our suppliers have extended lead time or limited the supply of required



## **Table of Contents**

materials to us because of capacity constraints. Consequently, from time to time, we have experienced difficulty in obtaining the quantities of raw materials we need 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 manufacturing yields. We cannot assure you that we will be able to obtain sufficient quantities of raw materials and other supplies in a timely manner. If the supply of materials is substantially diminished or if there are significant increases in the costs of raw materials, we may be forced to incur additional costs to acquire sufficient quantities of raw materials to sustain our operations, which may increase our marginal costs and reduce profitability.

We also depend on a limited number of manufacturers and vendors that make and maintain the complex equipment we use in our manufacturing processes. We also rely on these manufacturers and vendors to improve our technology to meet our customers' demands as technology improves. In periods of unpredictable and highly diversified market demand, the lead time from order to delivery of this equipment can be as long as six to 12 months. If there are delays in the delivery of equipment or if there are increases in the cost of equipment, it could cause us to delay our introduction of new manufacturing capacity or technologies and delay product deliveries, which may result in the loss of customers and revenues.

***We may be subject to the risk of loss due to fire because the materials we use in our manufacturing processes are highly flammable.***

We use highly flammable materials such as silane and hydrogen in our manufacturing processes and may therefore be subject to the risk of loss arising from fires. The risk of fire associated with these materials cannot be completely eliminated. In 1997, United Integrated Circuits, which was merged into our company in January 2000, suffered extensive fire damages which completely destroyed its fab. We maintain insurance policies to reduce losses caused by fire, including business interruption insurance. While we believe that our insurance coverage for damage to our property and disruption of our business due to fire is consistent with semiconductor industry practice, because our insurance coverage is subject to deductibles and generally only provides coverage in an amount up to the total book value of the assets insured, our insurance coverage may not be sufficient to cover all of our potential losses. If any of our fabs were to be damaged or cease operations as a result of a fire, it would temporarily reduce manufacturing capacity and reduce revenues.

***We and many of our customers and suppliers are vulnerable to natural disasters and other events outside of our control, which may seriously disrupt our operations.***

Most of our assets and many of our customers and suppliers are located in the Hsinchu Science Park. We and these customers and suppliers are dependent on the infrastructure supporting the Park. Our operations and the operations of our customers and suppliers are vulnerable to earthquakes, floods, droughts, power losses and similar events that affect the Hsinchu Science Park. The occurrence of any of these events could interrupt our services and cause severe damages to wafers in process. For instance, our operations stopped completely for five days in September 1999 largely because of a power outage caused by a severe earthquake. After the stoppage, we spent several days to ramp up to full operations. Shortages or suspension of power supplies to the Hsinchu Science Park have occasionally occurred, and have disrupted our operations. In addition, the Hsinchu area experienced a severe drought in 2001 and is likely to experience other droughts in the future. While the semiconductor manufacturing process uses large amounts of water, if a drought does occur and the authorities are unable to source water from alternative sources in sufficient quantity, we may be required to temporarily shut down or substantially reduce the operations of our fabs located in the Hsinchu Science Park, which would seriously affect our operations.

***If we violate environmental regulations, our operations may be delayed or interrupted and our business could suffer.***

We are always subject to environmental regulations and a failure or a claim that we have failed to comply with these environmental regulations could cause delays in our production and capacity expansion and affect our public image, either of which could harm our business. In addition, as environmental regulations are becoming more comprehensive and stringent, we may incur a greater amount of capital expenditures in technology innovation and materials substitution in order to comply with such regulations, which may adversely affect our results of operations.

## **Table of Contents**

### **Political, Economic and Regulatory Risks**

*We face substantial political risks associated with doing business in Taiwan, particularly due to the tense relationship between Taiwan and China.*

Our principal executive offices and most of our operations are conducted in Taiwan. Taiwan has a unique international political status. Accordingly, our business and financial condition will be affected by changes in local governmental policies and political and social instability. The government of the People's Republic of China, or the PRC, asserts sovereignty over mainland China and Taiwan, and does not recognize the legitimacy of the government of the ROC. The government of the PRC has indicated that it may use military force to gain control over Taiwan if Taiwan declares independence or a foreign power interferes in Taiwan's internal affairs. On December 31, 2003, the ROC Referendum Law was promulgated allowing referenda on a range of issues to be proposed and voted upon. The law includes a provision allowing referenda involving key constitutional issues, including, in the event that Taiwan comes under military attack from a foreign power, issues relating to sovereignty such as changes to Taiwan's flag, official name and territorial status. On March 19, 2004, Taiwan's incumbent president was injured in an assassination attempt, and the next day narrowly won a majority of votes in Taiwan's presidential election. The incumbent president was sworn into office for a second term on May 20, 2004 after a vote recount resulting from a legal challenge to the election results filed by the opposition party, but a court is still reviewing disputed ballots. The political uncertainty surrounding the election and the recount has affected the securities markets in Taiwan. The recent political uncertainty and related developments could adversely affect the prices of our ADSs and our common shares. It is unclear what effects any of the events described above may have on relations with the PRC. Relations between Taiwan and the PRC and other factors affecting Taiwan's political environment could affect our business.

*Our business depends on the support of the ROC government, and a decrease in this support may increase our labor costs and decrease our net income after tax.*

The ROC government has been very supportive of technology companies such as us. For instance, the ROC's labor laws and regulations do not require employees of semiconductor companies, including our company, to be unionized, and permit these employees to work shifts of 10 hours each day on a two-days-on, two-days-off basis. We cannot assure you, however, that these labor laws and regulations will not change in the future. In the event that the ROC government requires our employees to be unionized or decreases the number of hours our employees may work in a given day, our labor costs may increase significantly which could result in lower margins.

We, like many ROC technology companies, have benefited from substantial tax incentives provided by the ROC government. In 2003, such incentives resulted in a tax credit in the amount of NT\$332 million (US\$10 million). If these incentives are curtailed or eliminated, our net income after tax may decrease substantially.

*The trading price of the shares and ADSs may be adversely affected by the general activities of the Taiwan Stock Exchange and U.S. stock exchanges, the trading price of our shares, increases in interest rates and the economic performance of Taiwan.*

Our shares are listed on the Taiwan Stock Exchange. The trading price of our ADSs may be affected by the trading price of our shares on the Taiwan Stock Exchange and the economic performance of Taiwan. The Taiwan Stock Exchange is smaller and, as a market, more volatile than the securities markets in the United States and a number of European countries. The Taiwan Stock Exchange has experienced substantial fluctuations in the prices and volumes of sales of listed securities, and there are currently limits on the range of daily price movements on the Taiwan Stock Exchange. In the past 15 years, the Taiwan Stock Exchange Index peaked at 10,393.59 in February 2000 and subsequently fell to a low of 3,411.68 in September 2001. During 2003, the Taiwan Stock Exchange Index peaked at 6,142.32 on November 5, 2003, and reached a

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

low of 4,139.50 on April 28, 2003. On May 31, 2004, the Taiwan Stock Exchange Index closed at 5,977.84, and the daily closing value of our shares was NT\$27.8 per share. The Taiwan Stock Exchange is particularly volatile during times of political instability, such as when relations between Taiwan and the People's Republic of China are strained. Moreover, the Taiwan Stock Exchange has experienced problems such as market manipulation, insider trading and payment defaults, and the government of Taiwan has from time to time intervened in the stock market by purchasing stocks listed on the Taiwan Stock Exchange. The recurrence of these or similar problems could decrease the market price and liquidity of the shares and ADSs.

## **Table of Contents**

From September 19, 2000, the commencement date of the listing of our ADSs on the New York Stock Exchange, or NYSE, to May 31, 2004, daily reported closing prices of our ADSs ranged from US\$15.19 per ADS to US\$2.96 per ADS. The market price of the ADSs may also be affected by general trading activities on the U.S. stock exchanges, which recently have experienced significant price volatility with respect to shares of technology companies. Fluctuation in interest rates and other general economic conditions may also have an effect on the market price of the ADSs.

*Currency fluctuations could increase our costs relative to our revenues, which could adversely affect our profitability.*

More than half of our net operating revenues are denominated in currencies other than New Taiwan dollars, primarily U.S. dollars and Japanese Yen. On the other hand, more than half of our costs of direct labor, raw materials and overhead are incurred in New Taiwan dollars. Although we hedge a portion of the resulting net foreign exchange position through the use of forward exchange contracts, we are still affected by fluctuations in exchange rates among the U.S. dollar, the Japanese Yen, the New Taiwan dollar and other currencies. Any significant fluctuation in exchange rates may be harmful to our financial condition. In addition, fluctuations in the exchange rate between the U.S. dollar and the New Taiwan dollar will affect the U.S. dollar value of the ADSs and the U.S. dollar value of any cash dividends we pay, which could have a corresponding effect on the market price of the ADSs.

## **Risks Related to the Shares and ADSs and Our Trading Markets**

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

The ability to deposit shares into our ADS program is restricted by ROC law. Under current ROC law, no person or entity, including you and us, may deposit shares into our ADS program without specific approval of the ROC Securities and Futures Commission, or ROC SFC, except for the deposit of the shares into our ADS program and for the issuance of additional ADSs in connection with:

- (1) distribution of share dividends or free distribution of our shares;
- (2) exercise of the preemptive rights of ADS holders applicable to the shares evidenced by ADSs in the event of capital increases for cash; or
- (3) if permitted under the deposit agreement and the custody agreement, purchases of our shares in the domestic market in Taiwan by the investor directly or through the depository or the surrender of shares under the possession of investors and then delivery of such shares to the custodian for deposit into our ADS program, subject to the following conditions: (a) the depository may accept deposit of those shares and issue the corresponding number of ADSs with regard to such deposit only if the total number of ADSs outstanding after the deposit does not exceed the number of ADSs previously approved by ROC SFC, plus any ADSs issued pursuant to the events described in (1) and (2) above; and (b) this deposit may only be made to the extent previously issued ADSs have been cancelled.

As a result of the limited ability to deposit shares into our ADS program, the prevailing market price of our ADSs on the NYSE may differ from the prevailing market price of the equivalent number of our shares on the Taiwan Stock Exchange.

*Holders of our ADSs will not have the same voting rights as the holders of our shares, which may affect the value of your investment.*

Due to the amendment to the Company Act and the amendment made to our articles of incorporation accordingly, except for treasury shares, each common share is generally entitled to one vote and no voting discount will be applied. However, except as described in this annual report and in the deposit agreement, holders of our ADSs will not be able to exercise voting rights attaching to the shares evidenced by our ADSs on an individual basis. Holders of our ADSs will appoint the depositary or its nominee as their representative to exercise the voting rights attaching to the shares

## **Table of Contents**

represented by the ADSs. The voting rights attaching to the shares evidenced by our ADSs must be exercised as to all matters brought to a vote of shareholders collectively in the same manner.

If holders of at least 51% of the ADSs outstanding at the relevant record date instruct the depository to vote in the same manner regarding a resolution, including election of directors and/or supervisors, the depository will appoint our Chairman, or his designee, to represent the ADS holders at the shareholders' meetings and to vote the shares represented by the ADSs outstanding in the manner so instructed. If by the relevant record date the depository has not received instructions from holders of ADSs holding at least 51% of the ADSs to vote in the same manner for any resolution, then the holders will be deemed to have instructed the depository to authorize and appoint our Chairman, or his designee, to vote all the shares represented by ADSs at his sole discretion, which may not be in your interest.

*The rights of holders of our ADSs to participate in our rights offerings may be limited, which may cause dilution to their holdings.*

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

*Our public shareholders may have more difficulty protecting their interests than they would as shareholders of a U.S. corporation.*

Our corporate affairs are governed by our articles of incorporation and by laws governing ROC corporations. The rights of our shareholders to bring shareholders' suits against us or our board of directors under ROC law are much more limited than those of the shareholders of U.S. corporations. Therefore, our public shareholders may have more difficulty protecting their interests in connection with actions taken by our management, members of our board of directors or controlling shareholders than they would as shareholders of a U.S. corporation. Please refer to Item 10. Additional Information B. Memorandum and Articles of Association Rights to Bring Shareholders' Suits included elsewhere in this annual report for a detailed discussion of the rights of our shareholders to bring legal actions against us or our directors under ROC law.

*Holders of our ADSs will be required to appoint several local agents in Taiwan if they withdraw shares from our ADS program and become our shareholders, which may make ownership burdensome.*

Non-ROC persons wishing to withdraw shares represented by their ADSs from our ADS program and hold our shares represented by those ADSs are required to appoint a local agent or representative with qualifications set forth by the ROC SFC to open a securities trading account with a local brokerage firm, pay ROC taxes, remit funds and exercise shareholders' rights. In addition, the withdrawing holders are also required to appoint a custodian bank with qualifications set forth by the Ministry of Finance to hold the securities in safekeeping, make confirmations, settle trades and report all relevant information. Without making this appointment and opening of the accounts, the withdrawing holders would not be able to subsequently sell our shares withdrawn from a depository receipt facility on the Taiwan Stock Exchange.

Under ROC law and regulations, citizens of the People's Republic of China are not permitted to hold our shares or withdraw shares represented by ADSs from our ADS program.





---

## **Table of Contents**

### **ITEM 4. INFORMATION ON THE COMPANY**

#### **A. History and Development of the Company**

Our legal and commercial name is United Microelectronics Corporation, commonly known as UMC. We were incorporated under the ROC Company Law as a company limited by shares in 1980 and our shares were listed on the Taiwan Stock Exchange in 1985. Our principal executive office is located at No. 3 Li-Hsin Road II, Hsinchu Science Park, Hsinchu, Taiwan, Republic of China, and our telephone number is 886-3-578-2258. Our Internet Web site address is [www.umc.com](http://www.umc.com). The information on our Web site does not form part of this annual report. Our ADSs have been listed on the NYSE under the symbol UMC since September 19, 2000.

We are one of the world's largest independent semiconductor foundries and a leader in semiconductor manufacturing process technologies. Our primary business is the manufacture, or fabrication, of semiconductors, sometimes called chips or integrated circuits, for others. Using our own proprietary processes and techniques, we make chips to the design specifications of our many customers. Our company maintains a diversified customer base across industries, including communication, consumer electronics, computer and memory, while continuing to focus on manufacturing for high growth, large volume applications, including networking, telecommunications, Internet, multimedia, personal computers and graphics. We generate a significant amount of our operating revenues from customers who are in the communication, consumer electronics and computer industries. We also manufacture several semiconductor memory products based on our customers' specifications. Our products for communication, consumer electronics, computer, memory and other applications generated 41.6%, 28.1%, 25.4%, 3.3% and 1.6%, respectively, of our net operating revenues for 2003.

We focus on the development of leading mass-producible manufacturing process technologies. We were among the first in the foundry industry to go into commercial operation with such advanced capabilities as producing integrated circuits with line widths of 0.25, 0.18, 0.15 and 0.13 micron. Moreover, we have developed our own 90-nanometer process technology with both FSG and low-k dielectric insulation as well as copper metal wiring layers. In 2003, we became the first foundry to deliver working customer products using advanced 90-nanometer copper technology. Our 0.18 micron and below technologies have contributed to approximately 41.1% of our total net operating revenues in 2003, compared to 26.7% in 2002. We believe such technologies will better serve the needs of advanced customer chip designs with high performance and low power consumption. Our research and development team is currently focused on the development of 65-nanometer process technology and has dedicated resources to the research of 45-nanometer process technology. Other areas of research include strained silicon devices, 3-dimensional transistors, SOI, advanced modules such as high-k dielectric insulation and metal gate, raised source and drain, nickel silicide, advanced metal interconnect schemes and advanced optical proximity correction. We believe our superior process technologies will enable us to continue to offer our customers significant performance benefits for their products, faster time-to-market production, reasonable cost and other competitive advantages.

We provide high quality service based on our performance. We address our customers' needs using our advanced technology and proven methodology to achieve fast cycle time, high yield, production flexibility and close customer communication. For example, we select and configure our clean rooms and equipment, and develop our processes, to maximize flexibility in meeting and adapting to rapidly changing customer and industry needs. As a result, our cycle time, or the period from customer order to wafer delivery, and our responsiveness to customer request changes are among the fastest in the dedicated foundry industry. Our design service team actively cooperates with the customers and vendors of libraries, cells and intellectual property offerings to identify early in the product cycle the offerings needed by our customers and to ensure that these coordinated offerings are available to our customers in silicon verified form in a streamlined and easy to utilize manner. This enables a timely delivery of service offerings from the earliest time in the customer design cycle, resulting in shorter time-to-volume production. We also provide high quality service and engineering infrastructure. We provide our customers with real-time Internet access to their confidential production data, resulting in superior communication and efficiency.

Our production capacity is comparable to that of the largest companies in the semiconductor industry, and we believe our leading edge and high volume capability is a major competitive advantage. We have expanded our operations in Taiwan over the past several years. In 2002, we began volume production of 12-inch wafers at Fab 12A, our new 12-inch fab in Taiwan. Fab 12A currently has a monthly capacity of 14,000 12-inch

wafers,

## **Table of Contents**

equivalent to a monthly capacity of 31,500 8-inch wafers. We also have a controlling interest in UMCJ, formerly known as Nippon Foundry Inc., the first dedicated foundry in Japan, which owns one 8-inch fab in Japan. Our interest in UMCJ gives our company proximity to some of the largest integrated device manufacturers in the world, such as Sony Corporation, and allows our company to offer them local outsourcing of semiconductor production. We also hold a 95.23% equity interest in UMCi, which operates a 12-inch fab in Singapore's Pasir Ris Wafer Fab Park. The facilities of UMCi employ advanced process technologies including 0.13-micron and 90-nanometer processes. UMCi began volume production in the first quarter of 2004 and had 3,000 8-inch wafer equivalent manufacturing capacity for the first quarter of 2004.

Our technology and service have attracted three dominant types of foundry industry customers: fabless design companies, integrated device manufacturers and system companies. Fabless design companies design, develop and distribute proprietary semiconductor products, but do not maintain internal manufacturing capacity. Instead, these companies depend on outside manufacturing sources. Integrated device manufacturers, in contrast, traditionally integrated all functions—manufacturing as well as design, development, sales and distribution. System companies design and develop integrated circuits to be components within their end or intermediate products and generally do not maintain internal manufacturing capacity. For example, system companies market and sell cellular telephones and/or Internet appliances into which they incorporate semiconductor products.

Our primary end customers, in terms of our sales revenues, include premier integrated device manufacturers, such as Advanced Micro Devices, Inc., or AMD, Infineon, LSI, Philips, Sony Corporation, STMicroelectronics Inc. and Texas Instruments, and leading fabless design companies, such as ATI Technologies Inc., or ATI, Conexant Systems Inc., MediaTek, Novatek Microelectronics Corp., or Novatek, Ltd., Qualcomm Incorporated, Realtek Semiconductor Corp. and Xilinx, Inc., or Xilinx. For 2003, our company's top 10 end customers accounted for 53.9% of our net operating revenues. We believe our success in attracting these end customers is a direct result of our commitment to high quality service and our intense focus on customer needs and performance.

## **Recent Developments**

On February 26, 2004, we signed a merger agreement with SiS Microelectronics Corporation, or SiS Microelectronics, concerning our proposed acquisition of SiS Microelectronics through a share swap. SiS Microelectronics is a foundry company that operates an 8-inch wafer fab and was spun-off from Silicon Integrated System Corp., or SiS, an integrated circuit design and product company, in December 2003. This acquisition will allow us to expand our capacity in a timely and effective manner. We expect the acquisition to increase our production by 24,000 wafers per month. Under the terms of the merger agreement, we will issue 357 million new shares in exchange of 100% of SiS Microelectronics shares, at the ratio of one of our shares to 2.24 SiS Microelectronics shares, valuing the acquisition at NT\$10.7 billion. The completion of the acquisition is subject to a number of conditions, including obtaining approvals from Taiwan regulatory authorities. We expect to complete the acquisition by July 2004.

On March 31, 2004, pursuant to a sale and transfer agreement with EDB Investments, we purchased 135 million UMCi shares held by EDB Investments at a total cost of S\$301,500,000. As a result of this purchase, we increased our equity interest in UMCi from 80.19% to 95.23%.

## **Our Strategy**

To maintain and enhance our position as a market leader, we have adopted a business strategy with a focus on a partnership business model, designed to accommodate our customers' business objectives and needs and to promote their interests as our partners. We believe that our success and profitability are inseparable from the success of our customers. The goal in this business model is to create a network of partnerships or alliances among system and integrated device manufacturers, intellectual property and design houses, as well as foundry companies. We

believe that we and our partners will benefit from the synergy generated through such long-term partnerships or alliances and the added value to be shared among the partners. The key elements of our strategy are:

***Build up Customer-focused Partnership Business Model.*** We focus on building partnership relationships with our customers, and we strive to help our customers achieve their objectives through intimate cooperation. Unlike the traditional buy-and-sell relationship between a foundry and its customer, we believe our partnership business

---

**Table of Contents**

model will help us understand our customers' requirements, and accordingly better accommodate our customers' needs in a number of ways such as customized processing and services which optimize the entire value chain (not just the foundry portion) and intellectual property-related support. We believe that this business model will enable us to deliver our service offerings to our customers at the earliest time our customers require for their design cycle, resulting in shorter time-to-market and time-to-volume production. Furthermore, we believe we will render more cost-effective services by focusing our research and development expenditures on the specific requirements of our customers. We believe our partnership business model will help us not only survive a market downturn, but also achieve a better competitive position.

***Continue to Focus on High Growth Applications and Customers.*** We believe one measure of a successful foundry company is the quality of its customers. We focus our sales and marketing on customers who are established or emerging leaders in industries with high growth potential. Our customers include industry leaders such as AMD, ATI, Infineon, MediaTek, Oki, Qualcomm, Realtek, SanDisk, Sharp, Sony, STMicroelectronics, Texas Instruments and Xilinx. We seek to maintain and expand our relationships with these companies. We strive to demonstrate to these customers the superiority and flexibility of our manufacturing, technology and service capabilities and to provide them with production and design assistance. We are also making efforts to further diversify our customer portfolio in actively pursuing customers in the personal computer-related area in order to maintain a balanced exposure to different applications. We believe these efforts strengthen our relationships with our customers and enhance our reputation in the semiconductor industry as a leading foundry service provider.

***Maintain Our Leading Position in Mass-Produced Semiconductor Technology and Selectively Pursue Strategic Investments in New Technologies.*** We believe that maintaining and enhancing our leadership in mass-produced semiconductor manufacturing technologies is critical to attracting and retaining customers. Our reputation for technological excellence has attracted both established and emerging leaders in the semiconductor industries who work closely with us on technology development. In addition, we believe our superior processing expertise has enabled us to provide flexible production schedules to meet our customers' particular needs. We plan to continue to build internal research and development expertise, to focus on process development and to establish alliances with leading semiconductor companies to accelerate access to next-generation technologies. We pioneered the use of copper interconnect metallurgies for the dedicated foundry industry. These copper interconnect metallurgies allow higher conductivity and lower power consumption than traditional aluminum interconnects. In 2002, we began volume production using our advanced 0.13-micron copper technology. Our extensive experience in the 0.13-micron process technology has helped smooth our transition to 90-nanometer production. Many of the materials and techniques, including copper interconnects and low-k dielectric materials, that were first used in connection with the 0.13-micron process technology also apply to the 90-nanometer process technology. Our 90-nanometer process technology marks further advance in our technology achievements, incorporating up to nine copper metal layers, triple gate oxide and other advanced features. In 2003, we became the first foundry to deliver working customer products using advanced 90-nanometer copper technology. We believe our progress in the development of 90-nanometer manufacturing technology will benefit our customers in the fields of computer, communication, consumer electronics and others with special preferences in certain aspects of the products, such as the ultimate performance, density and power consumption.

We also recognize every company has limited resources and that the foundry industry is ever-evolving. Accordingly, we believe we should invest in new research and development technology intelligently and in a cost-effective manner to achieve the ultimate output of the resulting technology. In doing so, we balance (i) the rate of return of our research and development and (ii) the importance of developing a technology at the right time to enhance our competitive edge without unduly diluting our profitability. We intend to avoid investments in technologies that do not present a commercial potential for immediate mass production. We believe that to develop the earliest and most advanced semiconductor technology without regard to its potential for near term mass production may prove costly to our operations, while in the meantime, not strengthening our competitive position. We perceive a benefit to defer investment in the premature equipment needed to claim the earliest advanced technology and instead to purchase a more advanced and less expensive version of equipment from vendors who design such equipment based on pre-production lessons learned from the earliest technology.

***Maintain Scale and Capacity Capabilities to Meet Customer Requirements, with a Focus on 12-inch Wafer Facilities for Future Expansion.*** We believe that maintaining our foundry capacity with advanced technology and facilities is critical to the maintenance of our industry leadership. Our production capacity is currently among the



**Table of Contents**

largest of all semiconductor foundries in the world. We intend to increase our 12-inch wafer production capacity to meet the needs of our customers and to fully capitalize on the expected growth of our industry. Our future capacity expansion plans will focus on 12-inch wafer facilities in order to maintain our technology leadership. 12-inch wafers offer manufacturing advantages over 8-inch wafers because of the greater number of chips on each wafer. In addition, 12-inch wafer facilities present a more cost-effective solution in achieving an economic scale of production. We intend to carefully monitor current market conditions in order to optimize the timing of our capital spending. In 2002, we began volume production at Fab 12A, in Tainan, Taiwan. In addition, UMCi, which operates a 12-inch fab in Singapore's Pasir Ris Wafer Fab Park, began its volume production in the first quarter of 2004, employing advanced process technologies including 0.13-micron and 90-nanometer processes. Although we currently do not have any investments in the People's Republic of China, we are currently evaluating opportunities to expand our wafer fabrication business into the People's Republic of China. Our initial budget for purchases of semiconductor manufacturing equipment for 2004 is approximately US\$2.12 billion. Our efforts in increasing our production capacity raised our total production capacity from approximately 175,000 8-inch wafer equivalents per month in December 1999 to approximately 265,000 8-inch wafer equivalents per month in December 2003. Our annual total production capacity reached 3,005,000 8-inch wafer equivalents in 2003.

**B. Business Overview****Manufacturing**

To maintain a leading position in the foundry business, we have placed great emphasis on achieving and maintaining a high standard of manufacturing quality. As a result, we seek to design and implement manufacturing processes that produce consistent, high manufacturing yields to enable our customers to estimate, with reasonable certainty, how many wafers they need to order from us. In addition, we continuously seek to enhance our production capacity and process technologies, two important factors that characterize a foundry's manufacturing capability. Our large production capacity and advanced process technologies enable us to provide our customers with volume production and flexible and quick-to-market manufacturing services. All of our fabs operate 24 hours per day, seven days per week. Substantially all maintenance at each of the fabs is performed concurrently with production.

The following table sets forth operational data of each of our manufacturing facilities.

	<b>Fab 6A</b>	<b>Fab 8AB<sup>(1)</sup></b>	<b>Fab 8C</b>	<b>Fab 8D</b>	<b>Fab 8E</b>	<b>Fab 8F</b>	<b>Fab 12A</b>	<b>UMCJ</b>	<b>UMCi</b>
Commercial production commence	1989	1995 for the module formerly named Fab 8A; 1996 for the module formerly named Fab 8B	1998	2000	1998	2000	2002	1996	2004
Estimated full capacity <sup>(2)(3)(4)</sup>	29,000 wafers per month	65,000 wafers per month	30,000 wafers per month	18,000 wafers per month	32,000 wafers per month	27,000 wafers per month	24,000 wafers per month	30,000 wafers per month	wafers per month
Wafer size	6-inch (150mm)	8-inch (200mm)	8-inch (200mm)	8-inch (200mm)	8-inch (200mm)	8-inch (200mm)	12-inch (300mm)	8-inch (200mm)	12-inch (300mm)

Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Clean room area <sup>(5)</sup>	4,762 sq. meters	13,921 sq. meters	8,283 sq. meters	10,372 sq. meters	11,961 sq. meters	12,043 sq. meters	12,971 sq. meters	9,803 sq. meters	39,400 sq.meters
Type of clean rooms <sup>(6)</sup>	Class-10 @0.1um, clean tunnel	Class-0.1 @0.1um, clean tunnel	Class-0.1 @0.1um, clean tunnel	Class100 @0.3um, SMIF/mini- environment	Class100 @0.3um, SMIF/mini- environment	Class 100 @0.3um, SMIF/mini- environment	Class 100 @0.3um, SMIF/mini- environment	Class-0.1 @0.1um, clean tunnel	Class 100 @0.3um, SMIF/mini- environment

(1) Consists of two modules, formerly named Fab 8A and Fab 8B, respectively.

(2) As of December 31, 2003.

(3) Measured in 8-inch equivalents.



**Table of Contents**

- (4) The capacity of a fab is determined based on the capacity ratings given by manufacturers of the equipment used in the fab, adjusted for, among other factors, actual output during uninterrupted trial runs, expected down time due to set up for production runs and maintenance and expected product mix.
- (5) Area represents the total area of clean rooms within a fab.
- (6) Class represents the cleanliness of clean rooms in the fab. Class-10@0.1um means a standard of air purity under which the amount of dust is limited to fewer than 10 particles of contaminants of 0.1 micron or greater per one cubic foot per minute of air flow. Class-0.1@0.1um means a standard of air purity under which the amount of dust is limited to fewer than one particle of contaminant of 0.1 micron or greater per 10 cubic feet per minute of air flow. Class-100@0.3um means a standard of air purity under which the amount of dust is limited to fewer than 100 particles of contaminants of 0.3 micron or greater per one cubic foot per minute of air flow. The general production environment may be organized into clean tunnels or mini environments. In a clean tunnel environment, the clean room is divided into many tunnels with partitions. A higher level of cleanliness is kept inside the tunnel for production. Mini-environments within a clean room use Standard Mechanical Interface technology, or SMIF, which employs input/output devices designed to protect products from contamination while providing a standard mechanical interface to wafer production tools. Mini-environment is generally a preferred approach because it reduces building structural costs and operating costs, allows flexibility in equipment layout and facilitates the ramping-up process during capacity expansion.

In the fourth quarter of 2000, we completed construction of Fab 12A in Tainan, Taiwan and began volume production at this 12-inch fab in 2002. Fab 12A currently has a capacity of 14,000 12-inch wafers per month, equivalent to 31,500 8-inch wafers per month. In addition, UMCi, which operates a 12-inch fab in Singapore's Pasir Ris Wafer Fab Park, began volume production in the first quarter of 2004 and had 3,000 8-inch wafer equivalent manufacturing capacity for the first quarter of 2004.

The following table sets forth the size and primary use of our facilities and whether such facilities, including land and buildings, are owned or leased. All land in the Hsinchu and Tainan Science Parks is leased from the ROC government.

Location	Size	Primary Use	Owned or Leased
	(Land/Building)		(Land/Building)
	(in square meters)		
Fab 6A, No. 10, Innovation Rd. I, Hsinchu Science Park, Taiwan	27,898/34,981	6-inch wafer production	Leased (expires in February 2007)/Owned
Fab 8AB(1), No. 3 Li-Hsin Rd. II, Hsinchu Science Park, Taiwan	62,114/81,751	8-inch wafer production	Leased (expires in March 2014)/Owned
Fab 8C, No. 6, Li-Hsin Rd. III, Hsinchu Science Park, Taiwan	9,007/28,984	8-inch wafer production	Leased (expires in March 2016)/Owned
Fab 8D, No. 8, Li-Hsin Rd. III, Hsinchu Science Park, Taiwan	9,089/29,181	8-inch wafer production	Leased (expires in March 2016)/Owned
Fab 8E, No. 17, Li-Hsin Rd., Hsinchu Science Park, Taiwan	35,000/74,067	8-inch wafer production	Leased (expires in February 2016)/Owned

Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Hsinchu Science Park, Taiwan Fab 8F, No. 3, Li-Hsin Rd. VI,				Leased (expires in February 2018)/Owned
Hsinchu Science Park, Taiwan Fab 12A, No. 18, Nan-Ke Rd. II,	24,180/65,744	8-inch wafer production		
Tainan Science Park, Taiwan	56,000/165,607	12-inch wafer production		Leased (expires in October 2017)/Owned
UMCJ, Tateyama Plant, 1580 Yamamoto, Tateyama City, Chiba, Japan	388,402/21,420	8-inch wafer production		Mostly leased (expires in June 2049)/Owned
UMCi, No. 3 Pasir Ris Drive, 12 Pasir Ris Wafer Fab Park, Singapore	84,372/141,787	12-inch wafer production		Leased (expires in March 2031)/Owned
United Tower, No. 3, Li-Hsin Rd. II,				
Hsinchu Science Park Tunhwa South Rd. Office,	5,737/85,224	Administration office		Leased (expires in March 2014)/Owned
3F, No. 76, Sec. 2, Tunhwa South Rd.,				
Taipei, Taiwan Testing Building,	166/2,221	Administration office		Owned/Owned
No.1, Chin-Shan, St. 7,				
<u>Hsinchu, Taiwan</u>	10,762/17,573	Leased to several companies		Owned/Owned

<sup>(1)</sup> Consists of two modules, formerly named Fab 8A and Fab 8B, respectively.

Please refer to Recent Developments for our proposed acquisition of SiS Microelectronics, a foundry company that operates an 8-inch wafer fab.

## **Table of Contents**

### ***Process Technology***

Process technologies are the set of specifications and parameters that we implement for manufacturing the critical dimensions of the patterned features of the circuitry of semiconductors. Our process technologies are currently among the most advanced in the foundry industry. These advanced technologies have enabled us to provide flexible production schedules to meet our customers' particular needs.

The continued enhancement of our process technologies has enabled us to manufacture semiconductor devices with smaller geometries, allowing us to produce more dice on a given wafer. For example, in 1997 we became one of the first foundries to produce semiconductor products using 0.25-micron process technology, and in 1999 we were among the first foundries to offer 0.18-micron process services. In addition, we pioneered the use of copper interconnect metallurgies for the dedicated foundry industry. These copper interconnect metallurgies allow better reliability and higher conductivity than traditional aluminum interconnects. We began volume production using 0.13-micron process technology in 2002. Our extensive experience in the 0.13-micron process technology has helped smooth our transition to 90-nanometer pilot production. Many of the materials and techniques, including copper interconnects and low-k dielectric materials, that were first used in connection with the 0.13-micron process technology also apply to the 90-nanometer process technology. Our 90-nanometer process marks further advance in our technology achievements, incorporating up to nine copper metal layers, triple gate oxide and other advanced features and using chrom-less phase-shift masks. In 2003, we became the first foundry to deliver working customer products using advanced 90-nanometer copper technology. We believe our progress in the development of 90-nanometer process technology will continue to benefit our customers in the fields of computer, communication, consumer electronics, and others with special preferences in certain aspects of the products, such as the ultimate performance, density and power consumption.

The table below sets forth our actual process technology range, categorized by line widths, or the minimum physical dimensions of the transistor gate of integrated circuits in production by each fab, for 2003, and the estimated annual full capacity of each fab, actual total annual output and capacity utilization rates for 2001, 2002 and 2003:

**Table of Contents**

	Year Ended December 31, 2003 Range of Process Technologies  (in microns)	Year Ended December 31,		
		2001	2002	2003
		(in thousands of 8-inch wafer equivalents, except percentages)		
<b>Fab</b>				
6A	0.8 to 0.5	345	349	352
8AB <sup>(1)</sup>	0.5 to 0.25	943	853	801
8C	0.35 to 0.15	460	355	325
8D	0.25 to 0.09	290	214	238
8E	0.5 to 0.18	474	376	354
8F	0.25 to 0.15	351	312	341
12A	0.18 to 0.09	22	119	234
UMCJ	0.5 to 0.15	370	400	360
Total estimated capacity <sup>(2)</sup>		3,255	2,978	3,005
Total output (actual)		1,518	1,941	2,549
Capacity utilization		46.6%	65.2%	84.8%

<sup>(1)</sup> Consists of two modules, formerly named Fab 8A and Fab 8B, respectively.

<sup>(2)</sup> Does not include capacity of UMCi, which began volume production in the first quarter of 2004.

The table below sets forth a breakdown of number and percentage of wafer output by process technologies for 2001, 2002 and 2003. We began commercial operation of our 0.13-micron and 90-nanometer process technologies in the first quarter of 2002 and the second quarter of 2003, respectively.

Technology	Year Ended December 31,					
	2001		2002		2003	
	(in thousands of 8-inch wafer equivalents, except percentages)					
90 nanometers					1	0.0%
0.13 micron			27	1.4%	130	5.1
0.15 micron	15	1.0%	75	3.9	124	4.9
0.18 micron	142	9.4	247	12.7	489	19.2
0.25 micron	411	27.0	429	22.1	547	21.5
0.35 micron	528	34.8	735	37.9	855	33.5
0.50 micron or higher	422	27.8	428	22.0	403	15.8
<b>Total</b>	<b>1,518</b>	<b>100.0%</b>	<b>1,941</b>	<b>100.0%</b>	<b>2,549</b>	<b>100.0%</b>

## **Table of Contents**

We primarily manufacture semiconductors using CMOS process. CMOS is the most widely used process technology because it requires lower power than other technologies and allows dense placement of components onto a single semiconductor. The low power consumption and high density characteristics of the CMOS process allow the continued development of high performance semiconductors that are smaller and faster. We also manufacture semiconductors using BiCMOS technology, which combines bipolar's attribute of high speed with the high density and lower power consumption of CMOS.

In response to the growing trend in the market for SOC products, we have also developed system integration technologies such as embedded memory macro, radio frequency and mixed-signal processes, in order to accommodate the need of SOC designers. We have also developed high yield 0.13-micron Deep Trench DRAM, 1T-SRAM, 6T-SRAM and embedded flash memories. We are the only foundry company that can provide low-, medium- and high-density embedded memory solutions for leading-edge SOC designs.

### ***Capacity***

The fabs in Taiwan we own directly are named Fab 6A, Fab 8AB, Fab 8C, Fab 8D, Fab 8E and Fab 8F, all of which are located in the Hsinchu Science Park in Taiwan, and Fab 12A, which is located in the Tainan Science Park in Taiwan. Fab 8AB consists of two modules, formerly named as Fab 8A and Fab 8B, respectively. Fab 6A commenced production in 1989, and Fab 8A (currently part of Fab 8AB) commenced production in 1995. In 1995, we established three foundry ventures with 11 leading fabless design companies, including Xilinx, Trident and Alliance, to establish state-of-the-art 8-inch fabs. We owned an approximately 40% equity interest in each of these foundry ventures. Assisted by capital contributions made by our partners, we were able to expand our capacity quickly while reducing our capital risk. Three of our fabs, a fab formerly named Fab 8B (currently part of Fab 8AB), Fab 8C and Fab 8D, were established under these foundry ventures and began commercial production in 1996, 1998 and 2000, respectively. The commencement of commercial operations of Fab 8D was delayed because of a fire in 1997 that substantially damaged the fab. In 1998, we obtained management control over UTEK Semiconductor, a publicly listed company in Taiwan, which operated an 8-inch fab that was later renamed Fab 8E, to further increase our capacity. Our capacity increased further in the first quarter of 1999 when we acquired an approximate 52.3% in equity interest and management control of UMCJ, which owns an 8-inch fab in Japan.

Our future expansion plans will focus primarily on 12-inch wafer facilities in order to maintain our technology leadership. In the fourth quarter of 2000, we completed construction of Fab 12A, a 12-inch fab in Tainan, Taiwan. We began volume production of 12-inch wafers at Fab 12A in 2002. Fab 12A currently has a capacity of 14,000 12-inch wafers per month, equivalent to 31,500 8-inch wafers per month. In addition, in March 2001, we entered into a foundry venture agreement with EDB Investments and Infineon to form UMCi to construct and operate a 12-inch fab in Singapore's Pasir Ris Wafer Fab Park. Pursuant to the sale and transfer agreements entered in August 2003 and March 2004, we purchased all of the UMCi shares held by Infineon and EDB Investments. The facilities of UMCi employ advanced process technologies including 0.13-micron and 90-nanometer processes. UMCi began volume production in the first quarter of 2004 and had 3,000 8-inch wafer equivalent manufacturing capacity for the first quarter of 2004.

Historically, the downturn we experienced from the beginning of the fourth quarter of 2000 until early 2003 had a material adverse effect on industry-wide utilization rates including ours. However, the recovery in the semiconductor industry began to accelerate in the second half of 2003 and caused our capacity utilization rate to rise significantly. By the end of 2003, capacity utilization reached 100%, making it impossible for us to satisfy our customers' demand. In view of the long lead time required as well as the cost of building a new fab, we believe that the acquisition of SiS Microelectronics is the most effective method to increase our capacity to meet our customers' demand, relieve production bottlenecks and maximize growth in response to the strong recovery.

### ***Equipment***

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Because the effectiveness and efficiency of our manufacturing processes greatly depend on the quality and technology of our equipment, we generally purchase equipment that complements our existing process technology and anticipated advanced process technology. The principal equipment we use to manufacture semiconductor devices are scanners/steppers, cleaners and track equipment, inspection equipment, etchers, furnaces, wet stations,

## **Table of Contents**

strippers, implanters, sputters, CVD equipment, probers and testers. Other than an immaterial amount of equipment we lease for the use of our fabs in Taiwan, we own all of our equipment.

Our policy on equipment purchases is to purchase from a small number of qualified vendors to ensure consistency. Due to this policy, our equipment is mostly of consistent quality and capable of delivering similar performance.

In implementing our capacity expansion and technology advancement plans, we expect to make significant purchases of equipment required for our foundry services. Some of the equipment is available from a limited number of vendors and/or is manufactured in relatively limited quantities, and some equipment has only recently been developed. We believe that our relationships with equipment suppliers are good and that we can leverage our position as a major purchaser of semiconductor manufacturing equipment to purchase equipment on better terms, including shorter lead time, than the terms received by several other foundries.

Although we have not in the past experienced any material problems in procuring the latest generation equipment on a timely basis, the expansion of our fabrication facilities and facilities of other semiconductor companies may put additional pressure on the supply of advanced equipment and maintenance services for such equipment. In periods of unpredictably high market demand, the lead time from order to delivery of such equipment can be as long as six to 12 months. We seek to manage this process through early reservation of appropriate delivery slots and constant communications with our suppliers as well as by utilizing our good relationships with the vendors.

## ***Raw Materials***

Our manufacturing processes use many raw materials, primarily silicon wafers, chemicals, gases and various types of precious sputtering targets. These raw materials, with the exception of wafers, are generally available from several suppliers. Our policy with respect to raw material purchases, similar to that for equipment purchases, is to select only a small number of qualified vendors who have demonstrated quality and reliability on delivery time of the raw materials. We generally do not have any long-term supply contracts with our vendors.

Our general inventory policy is to maintain sufficient stock of each principal raw material for two-weeks production and rolling forecasts of near-term requirements received from customers. In addition, we have agreements with several key material suppliers under which they hold similar levels of inventory in their warehouses for our use. However, we are not under any obligation to purchase raw material inventory that is held by our vendors for our benefit until we actually order it. We typically work with our vendors to plan our raw material requirements on a quarterly basis, with indicative pricing generally set on a quarterly basis. The actual purchase price is generally determined based on the prevailing market conditions. In the past, prices of our principal raw materials have not been volatile to a significant degree. Although we have not experienced any shortage of raw materials that had a material effect on our operations, and supplies of raw materials we use currently are adequate, shortages could occur in various critical materials due to interruption of supply or an increase in industry demand.

The most important raw material used in our production processes is silicon wafer, which is the basic raw material from which integrated circuits are made. The principal suppliers for our wafers are Formosa Kotmatsu Silicon Corporation, MEMC Electronic Materials, Inc. and Shin-Etsu Handotai. We have in the past obtained and believe that we will continue to be able to obtain a sufficient supply of silicon wafers. We believe that we have close working relationships with our wafer suppliers. Based on such long-term relationships, we believe that these major suppliers will use their best efforts to accommodate our demand.

We use a large amount of water in our manufacturing process. We obtain water supplies from government-owned entities and recycle approximately 90% of the water that we use during the manufacturing process. We also use substantial amounts of dual loop electricity supplied by Taiwan Power Corporation and Hsin Yu Energy Development Corporation in the manufacturing process. We maintain back-up generators that are capable of providing adequate amounts of electricity to maintain the required air pressure in our clean rooms in case of power interruptions. We believe our back-up devices are adequate in preventing business interruptions caused by power outages and emergency situations.



## **Table of Contents**

### ***Quality Control***

We believe that our advanced process technologies and reputation for high quality and reliable services and products have been important factors in attracting and retaining leading international and domestic semiconductor companies as customers.

Our process technologies and fabrication facilities have been qualified by our customers after satisfying certain stringent quality inspections. Generally our customers, in addition to conducting their own product qualifications, will perform on-site fab audits. These audits normally address quality management, documentation control, procurement and material incoming inspection, product final inspection, calibration and certification training systems. These audits include both data/record review and physical fabrication area tours for verification of conformity to specifications and procedures. If the audit findings are satisfactory, then the fab facility is termed qualified for proceeding with further product qualification and later mass production. Most of our established customers, including AMD, ATI, Conexant Systems, Infineon, Kawasaki, LSI, MediaTek, Motorola, Novatek, Philips, Qualcomm, Sharp, Sony, STMicroelectronics, Texas Instruments, Trident, Xilinx and 3Com, have audited our fabrication facilities and our fabs have successfully passed their qualification requirements.

Our policy is to implement quality control measures to ensure high production yields at our facilities and production of reliable products for our customers. We test and monitor quality of raw materials, process and products at various stages in the manufacturing process before shipment to customers. Reliability assurance also includes in-process wafer level reliability monitoring as well as packaged level reliability compliance checks.

In addition, we maintain a Quality and Reliability Assurance Division in Taiwan consisting of more than 300 engineers, technicians and other staff as of April 30, 2004. This division is responsible for incoming materials quality inspection, in process quality audit, outgoing product quality inspection, quality system and standards maintenance, reliability assurance, reliability engineering and customer satisfaction.

All our Taiwan based fabs are QS-9000 certified and also registered under the Year 2000 version of ISO9001. QS-9000 sets the criteria for developing a fundamental quality management system. It focuses on continuous improvement, defect prevention and the reduction of variation and waste. The Year 2000 version of ISO9001 emphasizes customer satisfaction and resource management.

### ***Our Services and Products***

We primarily engage in wafer fabrication for foundry customers. To optimize fabrication services for our customers, we work closely with them as they finalize circuit design and contract for the preparation of masks to be used in the manufacturing process. We also offer our customers turnkey services by providing them with subcontracted assembly and test services. We believe that this ability to deliver a variety of foundry services in addition to wafer fabrication enables us to accommodate the needs of a full array of integrated device manufacturers, system companies and fabless design customers with different in-house capabilities.

Wafer manufacturing requires many distinct and intricate steps. Each step in the manufacturing process must be completed with precision in order for finished semiconductor devices to work as intended. The processes require taking raw wafers and turning them into finished semiconductor devices generally through five steps: circuit design, mask tooling, wafer fabrication, assembly and test. The services we offer to our customers in each of these five steps are described below.

**Circuit Design.** At this initial design stage, our engineers generally work with our customers to ensure that their designs can be successfully and cost-effectively manufactured in our facilities. We have assisted an increasing number of our customers in the design process by providing them with access to our partners' electronic design analysis tools, intellectual property and design services as well as by providing them with custom embedded memory macro-cells. In our Silicon Shuttle program, we offer customers and intellectual property providers early access to actual silicon samples with their desired intellectual property and content in order to enable early and rapid use of our advanced technologies. The Silicon Shuttle program is a multi-chip test wafer program that allows silicon verification of intellectual property elements. In the Silicon Shuttle program, several different vendors can test their

## Table of Contents

intellectual property using a single mask set, greatly reducing the cost of silicon verification for us and the participating vendors. The high cost of masks for advanced processes makes this program attractive to intellectual property vendors. ARM Limited, Artisan Components, Faraday Technology Corp., or Faraday Technology, MIPS Technologies International, Virage Logic Corporation and Virtual Silicon Technology have utilized our Silicon Shuttle program. In our ASIC Plus program, we coordinate with leading suppliers of intellectual property, design and ASIC services to ensure their offerings are available to our customers in an integrated, easy to use manner which matches customers' need to our technologies.

**Mask Tooling.** Our engineers generally assist our customers to design and/or obtain masks that are optimized for our advanced process technologies and equipment. Actual mask production is usually provided by independent third parties specializing in mask tooling.

**Wafer Fabrication.** As described above, our manufacturing service provides all aspects of the wafer fabrication process by utilizing a full range of advanced process technologies, including 0.15-micron and 0.13-micron processes and copper interconnection technology. We have also made a significant progress in developing the advanced 90-nanometer and the SOC process technologies. We have been shipping working customer products based on our 90-nanometer process technology since late March 2003. During the wafer fabrication process, we perform procedures in which a photosensitive material is deposited on the wafer and exposed to light through the mask to form transistors and other circuit elements comprising a semiconductor. The unwanted material is then etched away, leaving only the desired circuit pattern on the wafer. As part of our wafer fabrication services, we also offer wafer probing services, which test, or probe, individual die on the processed wafers and identify dice that fail to meet required standards. We prefer to conduct wafer probing internally to obtain speedier and more accurate data on manufacturing yield rates.

**Assembly and Test.** We offer our customers turnkey services by providing the option to purchase finished semiconductor products that have been assembled and tested. We outsource assembly and test services to leading local assembly and test service providers, including Siliconware Precision Industries Co., Ltd. and Advanced Semiconductor Engineering Inc. in Taiwan. After final testing, the semiconductors are shipped to our customers' designated locations.

## Customers and Markets

Our primary end customers consist of fabless design companies, integrated device manufacturers and system companies. Fabless design companies, including leading firms such as ATI, Conexant Systems, MediaTek, Novatek, Qualcomm, Realtek, and Xilinx, have historically accounted for a majority of our revenues. We also provide our services to integrated device manufacturers, such as AMD, Infineon, LSI, Philips, Sony, STMicroelectronics and Texas Instruments. The following table presents the percentages of our net operating revenues by types of customers during the last three years:

	Year Ended December 31,		
	2001	2002	2003
<b>Customer Type</b>			
Fabless design companies	69.7%	74.0%	66.5%
Integrated device manufacturers	28.3	25.6	33.5
System companies	2.0	0.4	0.0
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>



We categorize sales geographically based on the country or region in which the end customer is headquartered. When we initially began repositioning our operations as a pure foundry in 1995, a majority of our revenues had been derived from customers based in Taiwan, in part due to Taiwan's fast growing electronics industry. Since 1995, partly due to our ventures with leading U.S. fabless design companies, as well as our increasing marketing efforts in the United States, an increasing number of U.S. fabless design companies, integrated device manufacturers and system companies have been using our services. The following table presents a geographic breakdown of our net operating revenues during the last three years:

**Table of Contents**

	Year Ended December 31,		
	2001	2002	2003
<b>Region</b>			
North America	37.3%	35.1%	36.1%
Asia (excluding Japan)	35.6	43.2	36.4
Europe	19.3	14.1	14.9
Japan	7.8	7.6	12.6
Total	100.0%	100.0%	100.0%

Although we are not dependent on any single customer, a significant portion of our net operating revenues have been generated from sales to a few customers. Our top 10 end customers accounted for approximately 53.9% of our net operating revenues in 2003. MediaTek, in particular, accounted for 10% of our net operating revenues in 2003. We believe our success in attracting these end customers is a direct result of our commitment to high quality service and our intense focus on customer needs and performance.

Our customers use our products for a variety of applications, mainly communication, consumer electronics and computer. Our products for communication, consumer electronics, computer, memory and other applications generated approximately 41.6%, 28.1%, 25.4%, 3.3% and 1.6%, respectively, of our net operating revenues in 2003.

We focus on providing a high level of customer service in order to attract customers and maintain their ongoing loyalty. Our culture emphasizes responsiveness to customer needs with a focus on flexibility, speed and accuracy throughout our manufacturing and delivery processes. Our customer-oriented approach is especially evident in two types of services: customer design development services and manufacturing services. We believe that our large production capacity and advanced process technology enable us to provide better customer service than many other foundries through shorter turn-around time, greater manufacturing flexibility and higher manufacturing yields.

We work closely with our customers throughout the design development and prototyping processes. Our design support team closely interacts with customers and intellectual property vendors to facilitate the design process and to identify their specific requirements for intellectual property offerings. We are responsive to our customers' requirements in terms of overall turn-around-time and production time-to-market by, for example, helping our customers streamline their IP offering processes and delivering prototypes in a timely and easy-to-use fashion. We also maintain flexibility and efficiency in our technical capability and respond quickly to our customers' design changes.

For IP offerings, we work with several leading IP vendors from digital, memory and analog fields in the semiconductor industry, such as ARM Limited, Artisan Components, Faraday Technology, Virage Logic Corporation and Virtual Silicon Technology, to deliver quality IP blocks that have been silicon validated using our advanced processes for our customers. Our alliance programs with major electronic design automation vendors, such as Cadence, Magma, Mentor and Synopsys, provide our customers with seamless digital/analog reference design procedures and easy-to-use design solutions. For design services, partners such as Faraday Technology are able to provide turnkey solutions from design to production. By continuously enhancing our IP offerings, reference design procedures and design services through collaboration with major vendors, we aim to provide complete, accurate and user-friendly SOC solutions to our customers.

As a design moves into manufacturing production, we continue to provide ongoing customer support through all phases of the manufacturing process. The local account manager works with our customer service representative to ensure the quality of our services, drawing upon our

marketing and customer engineering support teams as required.

In 1996, we introduced our original on-line service, through which we provided our customers secure access via the Internet to critical manufacturing data, including process step location, start date, estimated ship-out date and quantity as their products move through our fabs. In October 2000, we officially launched our web-based customer information service system, known as My UMC, which gives our customers easy access to our foundry services by providing a total online supply chain solution. My UMC offers 24-hour access to detailed account information

## Table of Contents

such as manufacturing, engineering and design information through each customer's own customized start page. Some of the features available to customers through My UMC include:

viewing the status of orders from the start of production to the final shipping stages;

viewing design layouts to shorten customers' tape out time;

collecting customer engineering requests;

gathering and downloading data for design purposes; and

accessing online and in real time the same manufacturing data used by our fab engineers.

My UMC provides our customers with a level of information previously enjoyed only by integrated device manufacturers that conducted each step of the manufacturing and material procurement processes internally.

We are also currently in various stages of implementing a number of electronic business projects to enhance our ability to provide online business services to our customers. These projects include:

giving customers access to information and interactive tools on our website;

creating direct system-to-system links over the Internet (B2B) which will permit our customers to electronically place orders directly with us and receive shipping notices from us; and

providing customers with design support through our help desk, IP/Library information and responses to mask tooling requests.

We price our products on a per die or per wafer basis, taking into account the complexity of the technology, the prevailing market conditions, the order size, the cycle time, the strength and history of our relationship with the customer and our capacity utilization. Our main sales office is located in Taiwan, which is in charge of our sales activities in Asia. Our sales in Europe are currently made through United Microelectronics (Europe) BV, a wholly-owned subsidiary of our company based in Amsterdam. Our sales in North America are made through UMC Group (USA), our subsidiary located in Sunnyvale, California.

We designate a portion of our wafer manufacturing capacity to some of our customers primarily under two types of agreements: reciprocal commitment agreements and deposit agreements. Under a reciprocal commitment agreement, the customer agrees to pay for, and we agree to supply, a specified capacity at a specified time in the future under a deposit agreement, the customer makes in advance a cash deposit for an option on a specified capacity at our fabs for a similar period of time. Option deposits are credited to wafer purchase prices as shipments are made. If this customer does not use the specified capacity, it will forfeit the deposit but, in certain circumstances and with our permission, the customer may arrange for a substitute customer to utilize such capacity. We are also obligated in some cases to make available capacity to customers under other types of agreements, such as our capacity commitment arrangement with our venture partners.

We advertise in trade journals, organize technology seminars, hold a variety of regional and international sales conferences and attend a number of industry trade fairs to promote our products and services. We also publish a bi-monthly corporate newsletter for our customers.

### **Competition**

The worldwide semiconductor foundry industry is highly competitive, particularly during periods of overcapacity and inventory correction. We compete internationally and domestically with dedicated foundry service providers as well as with integrated device manufacturers and final-product manufacturers which have in-house manufacturing capacity or foundry operations. Some of our competitors have substantially greater production, financial, research and development and marketing resources than we have. As a result, these companies may be



## **Table of Contents**

able to compete more aggressively over a longer period of time than we can. In addition, several new dedicated foundries have commenced operations and compete directly with us. Any significant increase in competition may erode our profit margins and weaken our earnings.

We believe that our primary competitors in the foundry services market are Taiwan Semiconductor Manufacturing Company Limited, Semiconductor Manufacturing International (Shanghai) Corporation and Chartered Semiconductor Manufacturing Ltd., as well as the foundry operation services of some integrated device manufacturers such as IBM. New competitors such as Dongbu-Anam Semiconductor, Grace Semiconductor Manufacturing Corp., Silterra Malaysia Sdn. Bhd. and 1st Silicon (Malaysia) Sdn. Bhd. have initiated efforts to develop substantial new foundry capacity, although much of such capacity involves less cost-effective production than the 12-inch fabs for which we possess technical know-how. New entrants in the foundry business are likely to initiate a trend of competitive pricing and create potential overcapacity in legacy technology. The principal elements of competition in the semiconductor foundry industry include technical competence, production speed and cycle time, time-to-market, research and development quality, available capacity, manufacturing yields, customer service and price. We believe that we compete favorably with other foundries on each of these elements, particularly our technical competence and research and development capabilities.

## **Intellectual Property**

Our success depends in part on our ability to obtain patents, licenses and other intellectual property rights covering our production processes and activities. To that end, we have acquired certain patents and patent licenses and intend to continue to seek patents on our production processes. In 2003, we filed 316 patent applications worldwide, 132 of which were filed in the United States. As of March 31, 2004, we held 2,750 U.S. patents and 4,772 patents issued outside of the United States.

Our ability to compete also depends on our ability to operate without infringing the proprietary rights of others. The semiconductor industry is generally characterized by frequent litigation regarding patent and other intellectual property rights. As is the case with many companies in the semiconductor industry, we have from time to time received communications from third parties asserting patents that cover certain of our technologies and alleging infringement of certain intellectual property rights of others. We expect that we will receive similar communications in the future. Irrespective of the validity or the successful assertion of such claims, we could incur significant costs and devote significant management resources to the defense of these claims, which could seriously harm our company. There is no material litigation involving assertion of such claims currently pending against us.

In order to minimize our risks from claims based on our manufacture of semiconductor devices or end-use products whose designs infringe on others' intellectual property rights, we in general accept orders only from companies that we believe enjoy satisfactory reputation and for products that are not identified as risky for potential infringement claims. Furthermore, we obtain indemnification rights from customers. We also generally obtain indemnification rights from equipment vendors to hold us harmless from any losses resulting from any suit or proceedings brought against our company involving allegation of infringement of intellectual property rights on account of our use of the equipment supplied by them.

We have entered into various patent cross-licenses with major technology companies, including a number of leading international semiconductor companies such as IBM and Texas Instruments. We may choose to renew our present licenses or to obtain additional technology licenses in the future.

## **Environmental Matters**

The semiconductor production process generates gaseous wastes, liquid wastes, waste water and other industrial wastes in various stages of the manufacturing process. We have installed various types of anti-pollution equipment in our fabrication facilities to reduce, treat and, where feasible, recycle the wastes generated in our manufacturing process. We receive assistance with disposal of industrial waste from the Science Park Administration and Southern Taiwan Science Park Administration. Our operations are subject to regulation and periodic monitoring by Taiwan's Environmental Protection Administration and local environmental protection authorities.

## **Table of Contents**

We believe that we have adopted anti-pollution measures for the effective maintenance of environmental protection standards consistent with the practice of the semiconductor industry in Taiwan. In 2003, we spent approximately NT\$58 million (US\$1.7 million) for pollution control equipment. Our monthly waste disposal fees were approximately NT\$4 million (US\$0.1 million), and our annual cost for environmental monitoring was approximately NT\$5 million (US\$0.1 million). We also believe that we are in compliance in all material respects with applicable environmental laws and regulations.

## **Environmental, Safety and Health Management Systems**

We have implemented extensive environmental, safety and health management systems. These systems enable our operations to identify applicable environmental, safety and health regulations, assist in evaluating compliance status and timely establish loss preventive and control measures. The systems we implemented in all our fabs in Taiwan have been certified as meeting the ISO 14001 and OHSAS 18001 standards. ISO 14001 consists of a set of standards that provide guidance to the management of organizations to achieve an effective environmental management system. Programs are established at manufacturing locations to ensure that all accidental spills and discharges are properly addressed. OHSAS 18001 is a recognizable occupational health and safety management system standard, which may be applied to assess and certify our management systems. Our goal in implementing ISO 14001 and OHSAS 18001 systems is to continually improve our environmental, health and safety management.

## **Litigation**

As is the case with many companies in the semiconductor industry, we have from time to time received notices alleging infringement of intellectual property rights of others and breach of warranties. We investigate and evaluate each of these notices. Except as described below, we are not currently involved in material litigation or other proceedings.

In 1997, Oak Technology Inc., or Oak, filed a lawsuit against us in the U.S. District Court for the Northern District of California, and initiated a companion administrative law proceeding before the International Trade Commission, or ITC. Both actions claim patent infringement regarding certain types of CD-ROM controllers, and the District Court case also claims that we breached a settlement we entered into with Oak Technology in connection with the same technology. The District Court case was stayed pending an outcome in the ITC case. The ITC Administrative Law Judge found there was no infringement by us, and in September 1999, the ITC affirmed this finding. Oak Technology appealed the ITC's order on non-infringement to the Court of Appeals for the Federal Circuit, which then unanimously affirmed the ITC's order in May 2001. Based on the Federal Circuit's opinion and on a covenant not to sue filed by Oak, the declaratory judgment patent counterclaims were dismissed from the district court case. However, in connection with its breach of contract and other claims, Oak seeks damages in excess of US\$750 million. The District Court has not yet set dates for dispositive motions or for trial. We believe that Oak's claims are without merit and intend to vigorously defend the suit and to pursue our counterclaims. As with all litigations, we cannot predict the outcome with certainty.

In November 2002, Library Technologies, Inc., or LTI, filed suit against Virtual Silicon Technology, or VST, Silicon Metrics Corporation, our subsidiary UMC Group (USA) and us in U.S. District Court in San Francisco, California. LTI alleges in this case that we infringed LTI's copyrights, committed unfair competition, trade secret misappropriation, and tortious interference with contract in connection with the allegedly unauthorized copying and use of LTI's software related to library characterization tools. On January 21, 2004, the District Court entered a dismissal on all claims against us. As a result, these matters are resolved.

## **Risk Management**

As our management believes that management of risks involved in our manufacturing processes is an integral part of our management process and essential to our smooth and safe operation and production, we have endeavored to implement risk management strategies that are pioneering in the semiconductor industry. In 1998, we established our risk management division to comprehensively plan for and respond to emergencies and disasters. This division is now managed by a team of experienced risk management personnel.

## **Table of Contents**

We have been working closely with internationally renowned risk consultants in various fields to identify, analyze, and evaluate the risks commonly found in the semiconductor industry. These consultants include EQE International Inc. and VEC International Corp. in the area of seismic protection, Environmental and Occupational Risk Management, Inc. in the area of equipment safety management, and American International Underwriters, Ltd. or Marsh Risk Consulting in the area of loss control audit. We believe our risk evaluation process will enable us to avoid or mitigate potential losses, and accordingly protect our company values. In 2001, based on the recommendation of EQE International Inc. and Vibration Engineering Consultants, we completed our seismic protection improvement projects.

In 2003, we achieved a number of risk management goals, aiming to improve our emergency response, communication and business recovery during time of crisis. We developed a Risk Identification & Quantification Program for identification and evaluation of risks associated with our equipment and facilities in accordance with international and local standards. We perform such evaluations twice a year. We established a Power Supply Reliability Study & Improvement Project to examine and improve the adequacy and reliability of the power supply to all our facilities. We upgraded our emergency response capabilities and increased the number of our internal fire fighters from 50 to 80 in 2003, of which 10 are full-time professionals. We also established an Emergency Response Auditing Program to implement training exercises to improve the responsiveness of our workforce during emergency situations. Under this program, all fab personnel must go through a test to evaluate their responsiveness and performance during an emergency such as fire, chemical leaks or chemical spills. Finally, we implemented the SARS and Bird Flu Business Continuity Plan to evaluate the potential impact of the diseases.

## **Insurance**

We maintain industrial all risk insurance for our buildings, facilities, equipment and inventories. The insurance for fabs and their equipment covers physical damage and business interruption losses up to their respective policy limits except for exclusions as defined in the policy. We also maintain public liability insurance for losses to third parties arising from our business operations. We believe that our insurance coverage is adequate to cover all major types of losses relevant to the semiconductor industry practice. However, significant damage to any of our production facilities, whether as a result of fire or other causes, could seriously harm our business.

## **Capital Expenditures**

For 2003, we spent approximately NT\$24,820 million (US\$730 million) primarily to purchase 8-inch and 12-inch wafer-processing equipment and other equipment for research and development purposes. Our initial budget for purchases of semiconductor manufacturing equipment for 2004 is approximately US\$2.12 billion. We may adjust the amount of our capital expenditures upward or downward based on cash flow from operations, the progress of our capital projects, market conditions, and our anticipation of future business outlook.

## **Our Investments**

In the past, we focused our investments in the IC-related business, which we believed would advance our technologies, enhance our service and strengthen our strategic alliance relationships. Pursuant to new investment guidelines, we plan to maintain our shareholdings in Unimicron Technology Corp., or Unimicron Technology, Faraday Technology and SiS because of these companies' strategic importance to our future operations and expansion.

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Unimicron Technology, formerly known as World Wiser Electronics Incorporated, a Taiwan-based manufacturer of printed circuit boards and high density interconnections, was established in January 1980. We held a 37.95% stake in Unimicron Technology as of September 30, 2001. Unimicron Technology, Bestmult Industry Co. and UniMicron Technology Co. completed the merger of the three companies on October 31, 2001. Unimicron Technology was the surviving corporate entity and is expected to be one of the top three printed circuit board manufacturing companies in Taiwan. We were a founding investor in Faraday Technology, a company that offers advanced intellectual property and libraries to our foundry customers. As of March 31, 2004, we held 33.31% and 24.82% in Unimicron Technology and Faraday Technology, respectively.

## **Table of Contents**

In connection with the settlement of our litigations with SiS, we and SiS agreed in late 2002 to enter into a broad scope of cooperation, including, among other things, exchange of process patents, production support and our board representation in SiS. To further strengthen our relationship with SiS, we have also decided to invest in SiS. As of March 31, 2004, we held 16.18% of SiS outstanding share capital. In addition, our representatives currently hold four out of seven board seats of SiS, and John Hsuan, our vice chairman, is the chairman of SiS.

Depending on the market conditions, we intend to gradually reduce our other investments through secondary equity offerings, exchangeable bond offerings and other measures available to our company. We sold 105 million and 49 million common shares of AU Optronics Corp., or AU Optronics, in 2002 and 2003 in Taiwan. We issued US\$235 million Exchangeable Bonds due 2007 in May 2002 and US\$206 million Exchangeable Bonds due 2008 in July 2003, which are exchangeable, at the option of the bondholders, into common shares or American depository shares, or ADSs, and common shares of AU Optronics, respectively. On May 4, 2004, we redeemed all of our Exchangeable Bonds due 2008. In early June 2002, we sold 25 million common shares of AU Optronics in the form of ADSs in connection with the U.S. initial public offering of AU Optronics. As of March 31, 2004, we held 7.53% in AU Optronics.

In addition, on April 2, 2002, we transferred to Hitachi all of our interest in Trecenti Technologies, Inc., or Trecenti, a joint venture with Hitachi to build and operate a 12-inch fab in Japan. In October 2003, we sold 17 million common shares of Novatek Microelectronics Corp., or Novatek, for NT\$1,626 million (US\$48 million). In November 2003, we sold all of our interest in Teco Electric & Machinery Co., Ltd., or Teco, consisting of 77 million common shares, for NT\$886 million (US\$26 million). In 2003, we sold 9 million common shares of MediaTek for NT\$3,243 million (US\$95 million). As of March 31, 2004, we held 21.00% and 11.04% in Novatek and MediaTek, respectively.

## **Enforceability of Judgments in Taiwan**

We are a company limited by shares incorporated under the ROC Company Act. Most of our assets and most of our directors, supervisors and executive officers and experts named in the registration statement are located in Taiwan. As a result, it may be difficult for you to enforce judgments obtained outside Taiwan upon us or such persons in Taiwan. We have been advised by our ROC counsel that any judgment obtained against us in any court outside the ROC arising out of or relating to the ADSs will not be enforced by ROC courts if any of the following situations shall apply to such final judgment:

the court rendering the judgment does not have jurisdiction over the subject matter according to ROC law;

the judgment is contrary to the public order or good morals of the ROC;

the judgment was rendered by default, except where the summons or order necessary for the commencement of the action was legally served on us within the jurisdiction of the court rendering the judgment within a reasonable period of time or with judicial assistance of the ROC; or

judgments of ROC courts are not recognized and enforceable in the jurisdiction of the court rendering the judgment on a reciprocal basis.

## **C. Organizational Structure**

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

In January 2000, we completed a merger in which United Integrated Circuits, a subsidiary, and UTEK Semiconductor, United Silicon and United Semiconductor, our affiliates, were merged into United Microelectronics. Immediately prior to the merger, United Microelectronics and its consolidated subsidiaries owned approximately 61.6%, 12.5%, 38.8% and 42.5% of these entities, respectively, and had management control over each of them. As a result of the merger, United Microelectronics has been consolidating the business and operations of these companies for financial reporting purposes since January 3, 2000, except for United Integrated Circuits, which has been consolidated since January 1, 1999.



**Table of Contents**

The following diagram shows our corporate structure immediately prior to our consolidation:

The following diagram shows our corporate structure as of March 31, 2004:

## **Table of Contents**

### **D. Property, Plants and Equipment**

Please refer to B. Business Overview Manufacturing for a discussion of our property, plants and equipment.

## **ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS**

*Unless stated otherwise, the discussion and analysis of our financial condition and results of operations in this section apply to our financial information as prepared in accordance with ROC GAAP. You should read the following discussion of our financial condition and results of operations together with the consolidated financial statements and the notes to such statements included in this annual report. ROC GAAP varies in certain significant respects from US GAAP. These differences and their effects on our financial statements are described in Note 31 to our audited consolidated financial statements included in this annual report.*

*For the convenience of readers, NT dollar amounts used in this section for, and as of, the year ended December 31, 2003 have been translated into U.S. dollar amounts using US\$1.00 = NT\$33.99, the noon buying rate of the Federal Reserve Bank of New York on December 31, 2003. The U.S. dollar translation appears in parentheses next to the relevant NT dollar amount.*

### **Overview**

We are one of the world's leading independent semiconductor foundries, providing comprehensive wafer fabrication services and technologies to our customers based on their designs. We manage our business and measure our results of operations based on a single industry segment.

We have expanded our production capacity over the past several years, increasing our monthly capacity from 175,000 8-inch wafer equivalents in December 1999 on a combined basis to approximately 265,000 8-inch wafer equivalents in December 2003 on an actual basis. Our annual total production capacity reached 3,005,000 8-inch wafer equivalents in 2003. As a result of this increase in capacity, we have benefited from larger economies of scale. The larger economies of scale when capacity utilization rate is high have better enabled us to reduce our per unit production cost, which improves margins. However, when capacity utilization rate is low, this increased capacity has led to higher per unit production cost and decreased margins.

On January 3, 2000, United Microelectronics completed a merger in which each of UTEK Semiconductor, United Semiconductor, United Silicon and United Integrated Circuits was merged into United Microelectronics. The total purchase price of the merger was valued at approximately NT\$42,543 million. In this section, we refer to these transactions as the merger and, unless otherwise specified, the historical financial data discussed herein refer to United Microelectronics' consolidated financial data.

In March 2001, we entered into a foundry venture agreement with EDB Investments and Infineon relating to the formation of UMCi to construct and operate a 12-inch fab in Singapore's Pasir Ris Wafer Fab Park. Pursuant to the sale and transfer agreements entered in August 2003 and March 2004, we purchased all of the shares of UMCi held by Infineon and EDB Investments, respectively. As a result, we held 95.23% equity interest in UMCi as of March 31, 2004. The facilities of UMCi employ advanced process technologies including 0.13-micron and 90-nanometer processes. UMCi began volume production in the first quarter of 2004 and had 3,000 8-inch wafer equivalent manufacturing capacity for the first quarter of 2004.

We closed our licensed product division in August 2001. In the past, through our licensed product division, we manufactured and distributed semiconductor devices, primarily memory products in final packaged form, based on designs that we licensed from our customers. We closed our licensed product division primarily to prevent losses in the memory market and, to a lesser extent, to avoid competing with our memory customers. The losses associated with the closure of our licensed product division have been totally accounted for and should not affect our income in the future.

## **Table of Contents**

### **Cyclicality of the Semiconductor Industry**

As the semiconductor industry is highly cyclical, revenues varied significantly over this period. It can take several years to plan and construct a fab and bring it to operations. Therefore, during periods of favorable market conditions, semiconductor manufacturers often begin building new fabs or acquiring existing fabs in response to anticipated demand growth for semiconductors. In addition, after commencement of commercial operations, fabs can increase production volumes rapidly. As a result, large amounts of semiconductor manufacturing capacity typically become available during the same time period. Absent a proportional growth in demand, this increase in supply often results in semiconductor manufacturing overcapacity, which has led to a sharp decline in semiconductor prices and significant capacity underutilization.

Between 1999 and 2000, as global semiconductor demand experienced substantial growth, our average selling price of semiconductor wafers and devices during that period increased. In connection with this increase in demand and selling price, several semiconductor manufacturers, including our company, announced plans to significantly expand production capacities. However, the semiconductor industry experienced a downturn beginning in the fourth quarter of 2000 until early 2003, which resulted in overcapacity, excess inventory and reduced demand. Such industry downturn had substantially slowed down those expansion plans. Our capacity utilization rate, which was 100% in 2000, decreased to 46.6% in 2001, due to rapidly deteriorating demand, mainly from our customers in the communication sector. As the worldwide semiconductor industry began to recover, our capacity utilization rate increased to 84.8% in 2003 due to increased demand from the consumer electronics and wireless communication businesses. We believe that our results in 2001, 2002 and 2003 reflect the ongoing uncertainty in the global economy, conservative corporate information technology spending and low visibility with respect to end market demand.

### **Pricing**

We price our products on either a per die or a per wafer basis, taking into account the complexity of the technology, the prevailing market conditions, the order size, the cycle time, the strength and history of our relationship with the customer and our capacity utilization. Because semiconductor wafer prices tend to fluctuate frequently, we in general review our pricing on a quarterly basis. As a majority of our costs and expenses are fixed or semi-fixed, fluctuations in our products' average selling prices historically have had a substantial impact on our margins. Our average selling price declined approximately 3.1% from 2002 to 2003, mainly due to substantial pricing pressure.

We believe that our current level of pricing is comparable to that of other leading foundries in each respective geometry. We believe that our ability to provide a wide range of advanced foundry services and process technologies as well as large manufacturing capacity will enable us to compete effectively with other leading foundries at a comparable price level.

### **Capacity Utilization Rates**

Our operating results are characterized by relatively high fixed costs. In 2001, 2002 and 2003, approximately 77.7%, 74.3% and 71.7%, respectively, of our manufacturing costs consisted of depreciation, a portion of indirect material costs, amortization of license fees and indirect labor costs. Starting in 2003, a portion of our indirect material costs, such as material costs of chemicals, spare parts and quartz, that was included in our fixed costs prior to 2003, has been accounted for in our variable costs. For comparison purposes, the percentages of fixed costs discussed above are calculated based on the new definition of manufacturing costs.

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

If our utilization rates increase, our costs would be allocated over a larger number of units, which generally leads to lower unit costs. As a result, our capacity utilization rates can significantly affect our margins. Our utilization rates have varied from period to period to reflect our production capacity and market demand. The utilization rate of our operations was 46.6%, 65.2% and 84.8% in 2001, 2002 and 2003, respectively. The increases in our utilization rate in 2002 and 2003 were mainly due to the gradual recovery of the semiconductor industry in response to an increase in output of the consumer electronics and wireless communication industries. Utilization rates can also be affected by efficiency in production facility and product flow management. Other factors affecting utilization rates are the complexity and mix of the wafers produced, overall industry conditions, the level of

## **Table of Contents**

customer orders, mechanical failure, disruption of operations due to expansion of operations, relocation of equipment or disruption of power supply and fire or natural disaster.

Our production capacity is determined by us based on the capacity ratings given by manufacturers of the equipment used in the fab, adjusted for, among other factors, actual output during uninterrupted trial runs, expected down time due to set up for production runs and maintenance and expected product mix. Because these factors include subjective elements, our measurement of capacity utilization rates may not be comparable to those of our competitors.

## **Change in Product Mix and Technology Migration**

Because the price of wafers processed with different technologies varies significantly, the mix of wafers that we produce is among the primary factors that affect our revenues and profitability. The value of a wafer is determined principally by the complexity of the processing technology used to produce the wafer. Production of devices with higher levels of functionality and greater system-level integration requires more manufacturing steps and generally commands higher wafer prices. The increase in price generally has more than offset associated increases in production cost once an appropriate economy of scale is reached.

Prices for wafers of a given level of technology generally decline over the processing technology life cycle. As a result, we have continuously been migrating to increasingly sophisticated technologies to maintain the same level of profitability. For instance, we are among the first foundries to produce chips using 0.13-micron technology. In 2003, we became the first foundry to deliver working customer products using advanced 90-nanometer copper technology. These types of technology migration require continuous capital and research and development investment. Because developing and acquiring advanced technologies involve substantial capital investment, we expect to continue to spend a substantial amount of capital on upgrading our technologies.

## **Manufacturing Yields**

Manufacturing yield per wafer is measured by the number of functional dice on that wafer over the maximum number of dice that can be produced on that wafer. A small portion of our products is priced on a per die basis, and our high manufacturing yields have assisted us in achieving higher margins. In addition, with respect to products that are priced on a per wafer basis, we believe that our ability to deliver high manufacturing yields generally has allowed us to either charge higher prices per wafer or attract higher order volumes, resulting in higher margins.

We continually upgrade our process technologies. At the beginning of each technological upgrade, the manufacturing yield utilizing the new technology is generally lower, sometimes substantially lower, than the yield under the current technology. The yield is generally improved through the expertise and cooperation of our research and development personnel and process engineers, as well as equipment and at times raw material suppliers. Our policy is to offer customers new process technologies as soon as the new technologies have passed our internal reliability tests.

## **Investments**

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

In addition to making investments to enhance our capacity, technology and service, we have also made a significant number of strategic investments in other entities. See Item 4. Information on this Company Our Investments. Most of these investments were made to either improve our market position or strengthen relationships with our major shareholders. A significant portion of these investments is currently held by Hsun Chieh, an investment company that was 99.97% owned by United Microelectronics as of March 31, 2004.

Substantially all of our investments are long-term investments, a significant portion of which are in foundry-related companies including fabless design customers, raw material suppliers and intellectual property vendors. In addition, we also invest in non-foundry-related businesses, such as Mega Financial Holding Company. In recent years, we have from time to time disposed of our long-term investments for financial, strategic or other purposes. However, we plan to maintain our shareholdings in Unimicron Technology, Faraday Technology and SiS because of our strategic considerations.

## **Table of Contents**

Depending on the market conditions, we intend to gradually reduce our other investments through all measures available to our company. We sold 105 million and 49 million shares of AU Optronics in 2002 and 2003, respectively, in Taiwan. We issued US\$235 million Exchangeable Bonds due 2007 in May 2002 and US\$206 million Exchangeable Bonds due 2008 in July 2003, which are exchangeable, at the option of the bondholders, into common shares or ADSs and common shares of AU Optronics, respectively. On May 4, 2004, we redeemed all of our Exchangeable Bonds due 2008. In early June 2002, we sold 25 million common shares of AU Optronics shares in the form of ADSs in connection with the U.S. initial public offering of AU Optronics. As of March 31, 2004, we held 7.53% in AU Optronics.

In addition, in April 2002, we transferred to Hitachi all of our 40% interest in Trecenti and recognized a gain of NT\$1,397 million in 2002 in connection with the sale. In October 2003, we sold 17 million common shares of Novatek for NT\$1,626 million (US\$48 million). In November 2003, we sold all of our interest in Teco, consisting of 77 million common shares, for NT\$886 million (US\$26 million). In 2003, we sold 9 million common shares of MediaTek for NT\$3,243 million (US\$95 million). As of March 31, 2004, we held 21.00% and 11.04% in Novatek and MediaTek, respectively. In 2003, our investment income accounted for under the equity method was NT\$301 million (US\$9 million) and our dividend income was NT\$838 million (US\$25 million). Our gain on disposal of investments in the same period was NT\$6,885 million (US\$203 million) and other investment loss was NT\$1,886 million (US\$55 million).

## **Treasury Share Programs**

Beginning December 22, 2000, we announced several plans, none of which was binding on us, to buy back up to an aggregate of 1,551 million of our shares on the Taiwan Stock Exchange at the price range set forth in the plans. As of December 31, 2003, we purchased an aggregate of 335 million of our shares under these plans. In addition, on March 23, 2004, we announced a plan which was not binding on us, to buy back up to 360 million of our shares on the Taiwan Stock Exchange at a price range of NT\$19.6 to NT\$47.5 per share between March 24, 2004 and May 23, 2004. As of May 23, 2004, we had purchased 192 million of our shares under this plan at an average purchase price of NT\$27.07 per share.

## **Critical Accounting Policies**

### *General*

Our discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements included in the annual report, which have been prepared in accordance with ROC GAAP. ROC GAAP varies in certain respects from US GAAP. These differences and their effects on our financial statements are described in Note 31 to our audited consolidated financial statements included in this annual report. The preparation of our audited consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. We evaluate our estimates on an ongoing basis and base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We believe the following critical accounting policies involve significant judgments and estimates used in the preparation of our audited consolidated financial statements.

### *Revenue Recognition*



Revenue is recognized when title and liability for risk of loss or damage to the products have been transferred to customers, usually upon shipment, as most of our sales are made in terms of FOB or Free Carrier (FCA) shipment, for which the title and liability for risk of loss or damage pass to the customer upon our tender of delivery to a carrier approved by the customer. Sales returns and discounts taking into consideration customer complaints and past experiences are accrued in the same year as such sales are made.

## **Table of Contents**

### *Accounts Receivable and Allowance for Doubtful Accounts*

The allowance for doubtful accounts is provided based on the evaluation of collectibility and aging analysis of accounts and on management's judgment. In circumstances where the ability of a specific customer to meet its financial obligations is in doubt, a specific allowance will be provided. A considerable amount of judgment is required in assessing the ultimate realization of these receivables including the current credit worthiness and the past collection history of each customer. If the financial conditions of our customers were to worsen, additional allowances may be required. A deterioration of economic conditions either in ROC or in other major overseas markets may contribute to the deterioration of financial conditions of our customers, resulting in an impairment of their ability to make payments.

The allowances for doubtful accounts accounted for 0.9% and 1.0% of our accounts receivables as of December 31, 2002 and 2003, respectively. If we were to change our estimated rate on allowance for doubtful receivables either upward or downward by 10%, our income from operations would have been increased or decreased by NT\$20 million for 2003.

### *Inventory*

Inventories are recorded at cost when acquired and stated at the lower of aggregate cost, based on the weighted average method, or market value at the balance sheet date. The market values of raw materials and supplies are determined on the basis of replacement cost while net realizable values determined by the average selling price of the most recent periods are used as market values of work-in-process and finished goods. In addition, allowances for obsolete and slow-moving inventories are determined by analyzing the age of inventories and estimated future sales, among other things.

As of December 31, 2003, even if the market prices of our products had been 10% lower, there would not be any material impact on the total amount of inventory valuation allowances we recognized.

### *Deferred Taxes*

Most of our existing tax benefits arise from investment tax credits, and others from net operating loss carry-forward and temporary differences. We recognize these tax benefits as deferred tax assets. Income tax expense or benefit is recognized when there is a net change in deferred tax assets and liabilities. A valuation allowance is recorded to reduce our deferred tax assets to the amount that we believe will more likely than not be realized. The assessment of the valuation allowance involves subjective assumptions and estimates as it principally depends on the estimation of future taxable income and ongoing prudent and feasible tax planning strategies. If future taxable income is lower than expected due to future market conditions or other reasons or in the event we determine that we will not be able to realize all or part of our net deferred tax assets in the future, an adjustment to our deferred tax assets valuation allowance may be required with the adjusting amount charged to income in this period. Likewise, should future taxable income be higher than expected due to future market conditions or other reasons or in the event we determine that we would be able to realize our deferred tax assets in the future in excess of our net recorded amount, an adjustment to our deferred tax assets valuation allowance would increase income in this period.

### *Goodwill Impairment*

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Under US GAAP, we have performed the required goodwill impairment test during the year as required by Statement of Financial Accounting Standard (SFAS) No. 142, Goodwill and Other Intangible Assets. No impairment was identified for the year. In assessing the recoverability of our goodwill, we have to make assumptions regarding estimated future cash flows and other factors to determine the fair value of the respective assets. If these estimates and the related assumptions change the fair value of these assets in the future, we may need to record impairment charges accordingly. We will make regular impairment tests on an annual basis in the future. If events occur or circumstances change between annual tests that would more likely than not affect the recoverability of the goodwill, such as a significant adverse change in the business climate, an unanticipated competition, or a significant decline in our market capitalization in relation to net book value, we will perform additional interim tests and impairment loss will be recorded when required.

## **Table of Contents**

### *Impairment of Long-lived Assets*

Under US GAAP, as required by SFAS No.144, Accounting for the Impairment or Disposal of Long-Lived Assets, we review our long-lived assets that are held and used for impairment whenever events or changes in circumstances indicate that the carrying amount of the long-lived assets might not be recoverable. In other words, we will assess the need for any impairment write-down only if information indicates that an impairment might exist. Such information may include a significant decrease in market value of long-lived assets or a significant deterioration of market conditions such that the carrying value of long-lived assets may not be recovered through future cash flows. No impairment indicators were noted for the year. However, if future information indicates a potential impairment and we determine that the estimated future undiscounted cash flows are less than the carrying value of the assets, an impairment loss will be recognized. The estimates of future cash flows will be based on the estimated useful life, cash flow generating capacity, physical output capacity and other assumptions of the use of our long-lived assets.

### *Pensions*

We have significant pension benefit costs and liabilities that are developed from actuarial valuations. Inherent in these valuations are key assumptions including discount rates and expected return on plan assets. We consider current market conditions, including changes in interest rates, in selecting these assumptions. Changes in the related pension costs or liabilities may occur in the future in addition to changes resulting from fluctuations in our related headcount due to changes in assumptions.

### *Valuation of Marketable Securities and Long-term Investments*

Under ROC GAAP, we classify marketable securities as trading or long-term investments depending on management's intent to hold the security for long-term purposes. Trading securities comprise securities of public entities or mutual funds with readily determinable market value and are stated at the lower of aggregate cost or market value. Long-term investments comprise investments in public and non-public entities. We periodically evaluate long-term investments based on market prices, if available, operational performance, financial condition, cash flows, other impairment indicators, sales price of stock to third parties, and other specific factors relating to the business underlying the investment. When the investment has experienced consistent adverse changes in these factors, impairment would be recorded and could result in a negative impact on our net income. Actual results from valuation may vary due to the uncertainties regarding the projected financial performance of investments, the expected duration of declines in value and the available liquidity in the capital market to support the continuing operations.

Under US GAAP, marketable securities are classified as trading securities or available-for-sale securities. The changes in market value thereof are recorded in earnings or other comprehensive income, respectively. We periodically evaluate the carrying value of these securities and record a charge against earnings to the extent that any decline in the value of a security below cost is determined to be other than temporary.

### *Derivative Instruments*

Under US GAAP, exchange and conversion options embedded in our exchangeable bonds and convertible bonds, respectively, are bifurcated and separately accounted for under SFAS No. 133, Accounting for Derivative Instruments and Hedging Activities. The bifurcated exchange and conversion options were accounted for as freestanding instruments with the changes in fair value included in earnings. The fair value of such options is measured using the Black-Scholes option pricing model, which requires us to make subjective assumptions such as expected volatility

of the stock over the option's life and expected life of the option, among other things. In determining the input assumptions, we would consider historical trends and data together with professional judgment and objective expectation of the management. Because the model is sensitive to change in the input assumptions, different assessment of the required inputs may result in different fair value estimates of the options.

## **Table of Contents**

### *Employee Stock Options*

We have issued employee stock options since 2002, and pro forma information regarding net income and earnings per share is required by SFAS No. 123, Accounting for Stock-Based Compensation under US GAAP, to account for the employee stock options. The pro forma net income is determined as if the fair value of our employee stock options was included as compensation expense for the year. In estimating the fair value of the stock options, the Black-Scholes option pricing model is used. As discussed in the preceding paragraph, the use of the valuation model requires the input of subjective assumptions. In assessing the required inputs, we use historical records wherever available such as past dividend yields and historical volatility. Because we cannot anticipate when our employees will exercise their options, we use the mid-point between the vesting date and the expiration date for estimation of the expected life of options. As discussed above, different assessments of the input assumptions may lead to different fair value estimates, which in turn may affect our pro forma net income disclosed as compensation expense.

## **A. Operating Results**

### *Consolidation*

Unlike US GAAP, ROC GAAP does not require us to consolidate subsidiaries whose assets and operating revenues are less than 10% of our non-consolidated assets and operating revenues, respectively. See Note 2 to our audited consolidated financial statements. As a result, our consolidated financial statements prepared under ROC GAAP do not include the financial results of Fortune Venture Capital Corporation, United Foundry Services Inc. and UMC Capital Corporation for 2001, or Fortune Venture Capital Corporation, United Foundry Services Inc., UMC Capital Corporation and United Microelectronics Corp. (Samoa) for 2002 and 2003, each of which is a consolidated subsidiary under US GAAP. In the aggregate, these subsidiaries had net operating revenues equal to approximately nil of our consolidated revenues for each of the year ended December 31, 2001, 2002 and 2003.

### *Net Operating Revenues*

We generate our net operating revenues primarily from fabricating semiconductor devices. We also derive a small portion of our net operating revenues from wafer probe services that we perform internally as well as mask tooling services and assembly and test services that we subcontract out.

### *Costs of Goods Sold*

Our costs of goods sold consist principally of:

overhead, including depreciation and maintenance of production equipment, indirect labor costs, indirect material costs, supplies, utilities and royalties;

wafer costs;

direct labor costs; and

service charges paid to subcontractors for mask tooling, assembly and test services.

Due to the increasing expenditures related to the purchase of equipment and the construction of new fabs, our total depreciation expenses have increased from NT\$34,390 million in 2001 to NT\$36,568 million in 2002 and to NT\$39,233 million (US\$1,154 million) in 2003.

*Operating Expenses*

Our operating expenses consist of the following:

## **Table of Contents**

*Sales and marketing expenses.* Sales and marketing expenses consist primarily of salaries and related personnel expenses, wafer sample expenses, intellectual property development expenses and related marketing expenses. Wafer samples are actual silicon samples of our customers' early design ideas made with our most advanced processes and provided to those customers.

*General and administrative expenses.* General and administrative expenses consist primarily of salaries for our administrative, finance and human resource personnel, fees for professional services, and cost of computer and communication systems to support our operations.

*Research and development expenses.* Research and development expenses consist primarily of salaries and related costs for process and technology research and development, technology license fees allocated to research and development and depreciation and maintenance on the equipment used in our research and development efforts.

## ***Non-operating Income and Expenses***

Our non-operating income principally consists of:

interest income, which has been primarily derived from time deposits; and

gain on disposal of investments, which has been primarily derived from our disposal of long-term investments.

Our non-operating expenses principally consist of:

interest expenses, which have been primarily derived from long-term debt;

loss on decline in market value and obsolescence of inventories, which has been primarily derived from the loss due to the decline in market value and write-off of our inventories; and

other investment loss, which has been primarily derived from impairment losses of long-term investments.

## ***Taxation***

Based on our status as a company engaged in the semiconductor business in Taiwan, we have been granted exemptions from income taxes in Taiwan with respect to income attributable to capital increases for the purpose of purchasing equipment related to the semiconductor business for a period of four years following each such capital increase. This tax exemption resulted in tax savings of approximately nil, nil and NT\$886 million (US\$26 million) in 2001, 2002 and 2003, respectively. As of January 30, 2001, the administrative regulations of the Hsinchu Science Park revoked the preferential tax rate of 20%. Our current tax rate is 25%, the same rate applicable to companies outside the Hsinchu Science Park.



## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

We also benefit from other tax incentives generally available to technology companies in Taiwan, including tax credits applicable against corporate income tax that range from 25% to 50% of the amount of certain research and development and employee training expenses and 5% to 20% of the amount of investment in certain qualified equipment and technology. These tax incentives resulted in tax savings of approximately NT\$1,834 million, nil and NT\$1,719 million (US\$51 million) in 2001, 2002 and 2003, respectively.

After taking into account of the tax exemptions and tax incentives discussed above, we recorded NT\$3,040 million of income tax benefit in 2001, NT\$271 million tax expenses in 2002 and NT\$979 million (US\$29 million) tax expenses in 2003. Our effective income tax rate in 2003 was 6.67%.

In 1997, the ROC Income Tax Law was amended to integrate corporate income tax and shareholder dividend tax to eliminate the double taxation effect for resident shareholders of Taiwan companies. Under the amendment, all

**Table of Contents**

retained earnings generated from January 1, 1998 and not distributed to shareholders as dividends in the following year will be assessed a 10% retained earnings tax. See Item 10. Additional Information E. Taxation ROC Tax Considerations Dividends . As a result, if we do not distribute all of our annual retained earnings generated after January 1, 1998 as either cash and/or stock dividends in the following year, these earnings will be subject to the 10% retained earnings tax.

**Comparisons of Results of Operations**

The following table sets forth some of our results of operations data as a percentage of our net operating revenues for the periods indicated.

	Year Ended December 31,		
	2001	2002	2003
Net operating revenues	100.0%	100.0%	100.0%
Costs of goods sold	86.8	83.4	77.3
Gross profit	13.2	16.6	22.7
Operating expenses:			
Sales and marketing	3.3	2.0	2.3
General and administrative	6.3	4.7	4.1
Research and development	12.8	9.8	6.1
Operating income (loss)	(9.2)	0.1	10.2
Net non-operating income (expense)	(0.2)	9.2	5.1
Income (loss) before income tax and minority interest	(9.4)	9.3	15.3
Income tax (expense) benefit	4.4	(0.3)	(1.0)
Minority interest (income) loss	0.5	0.4	0.3
Net income (loss)	(4.5)	9.4	14.6

**2002 Compared with 2003**

**Net operating revenues.** Net operating revenues increased by 26.9% from NT\$75,425 million for 2002 to NT\$95,704 million (US\$2,816 million) for 2003, primarily as a result of the rise in sales quantities. Although our average selling price of wafers declined by 3.1%, the number of wafers sold rose by 39.9% in 2003.

**Cost of goods sold.** Cost of goods sold increased by 17.6% from NT\$62,887 million for 2002 to NT\$73,938 million (US\$2,175 million) for 2003. The rate of increase in cost of goods sold, compared to the magnitude of the increase in net operating revenues, was attributable to the improvement in utilization rate from 65.2% in 2002 to 84.8% in 2003, and resulted in lower cost per unit sold.

**Gross profit and gross margin.** Gross profit increased by 73.6% from NT\$12,538 million for 2002 to NT\$21,766 million (US\$640 million) for 2003. Gross margin increased from 16.6% for 2002 to 22.7% for 2003. The increase in gross margin was due to lower cost per unit, as a result of larger production and sales volumes and higher utilization rate.

**Operating income and operating margin.** Operating income increased substantially from NT\$112 million for 2002 to NT\$9,740 million (US\$287 million) for 2003. Our operating margin increased from 0.1% for 2002 to 10.2% for 2003. Operating expenses decreased by 3.2% from NT\$12,426 million for 2002 to NT\$12,026 million (US\$354 million) for 2003.

**Sales and marketing expenses.** Our sales and marketing expenses increased by 42.2% from NT\$1,527 million for 2002 to NT\$2,171 million (US\$64 million) for 2003. The increase in sales and marketing expenses was mainly due to an increase in intellectual property development expenses and wafer sample expenses. Our sales and marketing expenses as a percentage of our net operating revenues increased from 2.0% for 2002 to 2.3% for 2003.

## **Table of Contents**

**General and administrative expenses.** Our general and administrative expenses increased by 13.2% from NT\$3,531 million for 2002 to NT\$3,996 million (US\$118 million) for 2003 largely due to the increase of UMCi start-up costs in 2003. UMCi start-up cost was classified as general and administrative expense before it began volume production in the first quarter of 2004. Our general and administrative expenses as a percentage of our net operating revenues decreased from 4.7% for 2002 to 4.1% for 2003.

**Research and development expenses.** Our research and development expenses decreased by 20.5% from NT\$7,368 million for 2002 to NT\$5,859 million (US\$172 million) for 2003. The decrease in research and development expenses resulted primarily from the completion of a joint development program with IBM and Infineon. Our research and development expenses as a percentage of our net operating revenues decreased from 9.8% for 2002 to 6.1% for 2003.

The increase in operating margin is largely due to an increase in gross margin, and a decrease operation expenses.

**Net non-operating income.** Net non-operating income decreased from NT\$6,904 million for 2002 to NT\$4,956 million (US\$146 million) for 2003 mainly due to a decrease in interest income, a decrease in gain on disposal of investments and an increase in other investment loss. Interest income decreased from NT\$1,644 million for 2002 to NT\$1,141million (US\$34 million) for 2003, mainly due to a decrease in interest income from our time deposits, which resulted from general market interest rate decline. Gain on disposal of investments decreased from NT\$8,473 million for 2002 to NT\$6,885 million (US\$203 million) for 2003 mainly due to a decrease in the gain on disposal of investments in AU Optronics. Moreover, we disposed all of the shares of Trecenti and recognized a gain on disposal of investments in Trecenti in 2002. Other investment loss increased from NT\$1,419 million for 2002 to NT\$1,866 million (US\$55 million) for 2003 mainly due to write-offs of our investments in Vialta and LightCross.

**Net income.** Due to the factors described above, we incurred a net income of NT\$14,020 million (US\$412 million) for 2003, compared to a net income of NT\$7,072 million for 2002.

## ***2001 Compared with 2002***

**Net operating revenues.** Net operating revenues increased by 8.0% from NT\$69,817 million for 2001 to NT\$75,425 million for 2002, primarily as a result of the rise in sales quantities. Although our average selling price of wafers declined by 6.9% on a consolidated basis, the number of wafers sold rose by 15.2% in 2002.

**Cost of goods sold.** Cost of goods sold increased by 3.8% from NT\$60,568 million for 2001 to NT\$62,887 million for 2002. The marginal increase in cost of goods sold, compared to the magnitude of the increase in net operating revenues, was attributable to the improvement in utilization rate from 46.6% in 2001 to 65.2% in 2002, and resulted in lower cost per unit sold.

**Gross profit and gross margin.** Gross profit increased by 35.6% from NT\$9,249 million for 2001 to NT\$12,538 million for 2002. Gross margin increased from 13.2% for 2001 to 16.6% for 2002. The increase in gross margin was due to lower cost per unit, as a result of larger production and sales volumes and higher utilization rate.

**Operating income (loss) and operating margin.** We generated an operating loss of NT\$6,412 million for 2001 compared to an operating income of NT\$112 million for 2002. Our operating margin was 9.2% and 0.1%, respectively, for these two years. Operating expenses decreased by 20.7% from NT\$15,661 million for 2001 to NT\$12,426 million for 2002.

**Sales and marketing expenses.** Our sales and marketing expenses decreased by 32.9% from NT\$2,276 million for 2001 to NT\$1,527 million for 2002. The decrease in sales and marketing expenses was mainly due to the decrease in sample expenses. Our sales and marketing expenses as a percentage of our net operating revenues decreased from 3.3% for 2001 to 2.0% for 2002.

**General and administrative expenses.** Our general and administrative expenses decreased by 20.2% from NT\$4,425 million for 2001 to NT\$3,531 million for 2002 largely due to the decrease of Fab 12A start-up costs in

---

**Table of Contents**

2002. Fab 12A start-up costs were classified as general and administrative expenses before Fab 12A started volume production in June 2002. Our general and administrative expenses as a percentage of our net operating revenues decreased from 6.3% for 2001 to 4.7% for 2002.

**Research and development expenses.** Our research and development expenses decreased by 17.8% from NT\$8,960 million for 2001 to NT\$7,368 million for 2002. The decrease in research and development expenses resulted primarily from a decrease in expenses related to the joint development project with IBM and Infineon due to the early completion of the project. Our research and development expenses as a percentage of our net operating revenues decreased from 12.8% for 2001 to 9.8% for 2002.

The increase in operating margin is largely due to the increase in gross margin, and the decreases in sales and marketing expenses, general and administrative expenses and research and development expenses, as percentages of our net operating revenues.

**Net non-operating income (expense).** Net non-operating results increased from a net non-operating expense of NT\$154 million for 2001 to a net non-operating income of NT\$6,904 million for 2002 mainly due to an increase in gain on disposal of investments and a decrease in investment loss. Gain on disposal of investments increased from NT\$2,347 million for 2001 to NT\$8,473 million for 2002 mainly due to disposal of our investments in AU Optronics, MediaTek and Trecenti. Investment loss decreased from NT\$1,828 million for 2001 to NT\$932 million for 2002, primarily due to a decrease in the recognition of net operating losses of Trecenti and AU Optronics. We transferred all our 40% equity interest in Trecenti to Hitachi in April 2002 and stopped recognizing the operating losses with respect to Trecenti accordingly. In addition, we changed our accounting method for our investment in AU Optronics from the equity method to lower-cost or market-value method and need not recognize operating losses with respect to AU Optronics for 2002 since we were no longer able to exercise significant influence over AU Optronics starting from the third quarter of 2001.

**Net income.** Due to the factors described above, we incurred a net income of NT\$7,072 million for 2002, compared to a net loss of NT\$3,157 million for 2001.

**B. Liquidity and Capital Resources**

The foundry business is highly capital intensive. Our development over the past three years has required significant investments. Additional expansion for the future generally will continue to require significant cash for acquisition of plant and equipment to support increased capacities, particularly for the production of 12-inch wafers, although our expansion program will be adjusted from time to time to reflect market conditions. In addition, the semiconductor industry has historically experienced rapid changes in technology. To maintain competitiveness at the same capacity, we are required to make adequate investments in plant and equipment. In addition to our need for liquidity to support the large fixed costs of capacity expansion and the upgrading of our existing plants and equipment for new technologies, as we ramp up production of new plant capacity, we require significant working capital to support purchases of raw materials for our production and to cover variable operating costs such as salaries until production yields provide sufficiently positive margins for a fabrication facility to produce operating cash flows.

We have financed our capital expenditure requirements from cash flows from operations as well as from bank borrowings, the issuance of bonds and equity-linked securities denominated in NT dollars and U.S. dollars and the proceeds from our ADS offering in September 2000. We incurred capital expenditures of NT\$43,051 million, NT\$35,978 million and NT\$24,820 million (US\$730 million) in 2001, 2002 and 2003, respectively, requiring a significant amount of funding from financing activities. Once a fab is in operation at acceptable capacity and yield rates, it can provide significant cash flows. Cash flows significantly exceed operating income reflecting the significant non-cash depreciation expense. We generated cash flows from operations of NT\$40,187 million, NT\$30,527 million and NT\$49,625 million (US\$1,460 million) in 2001, 2002 and 2003, respectively.

As of December 31, 2003, we had NT\$118,772 million (US\$3,494 million) of cash and cash equivalents and NT\$1,820 million (US\$54 million) of marketable securities.

## **Table of Contents**

Our operating activities generated cash of NT\$49,625 million (US\$1,460 million) for 2003. Cash generated from our operating activities for 2003 was primarily attributable to add-back of non-cash items, such as depreciation and amortization in the amount of NT\$40,863 million (US\$1,202 million).

Net cash used in our investment activities was NT\$24,114 million (US\$709 million) for 2003. In 2003, we used cash of NT\$24,820 million (US\$730 million) to purchase equipment primarily used at our fabs.

Net cash provided by our financing activities was NT\$17,581 million (US\$517 million) for 2003. For financing activities for 2003, we received cash of NT\$29,095 million (US\$856 million) mainly from the issuance of exchangeable bonds due 2008, which were exchangeable for common shares of AU Optronics and the issuance of unsecured bonds. The issuance of zero coupon convertible bonds by UMCJ also contributed to an increase in cash. We also repaid long-term loans of NT\$14,270 million (US\$420 million) in cash in 2003.

Our outstanding short-term loans were NT\$1,885 million (US\$55 million) as of December 31, 2003. We had total availability under existing short-term lines of credit, which can be drawn in NT dollars, U.S. dollars, Japanese Yen and/or Euros at our discretion, of NT\$20,224 million (US\$595 million) as of December 31, 2003. All of our short-term loans are revolving facilities with terms of six months or one year, which may be extended for terms of six months or one year each with lender consent. The weighted average annual effective interest rate under these facilities ranged between 1.60% and 1.74% as of December 31, 2003. Our obligations under our short-term loans are unsecured.

We had long-term loans of NT\$6,338 million (US\$186 million) in the aggregate as of December 31, 2003. The interest rates of these long-term borrowings are variable rates and ranged between 0.95% and 2.53% per year as of December 31, 2003.

We had bonds payable of NT\$74,920 million (US\$2,204 million) in the aggregate as of December 31, 2003.

We have pledged a substantial portion of our assets with a carrying value of NT\$14,113 million (US\$415 million) as of December 31, 2003 to secure our obligations under the long-term loans.

As of December 31, 2003, our outstanding long-term liabilities primarily consisted of:

NT\$2,739 million secured bank loans, which are repayable in installments with the last payment on March 25, 2008;

NT\$3,599 million unsecured bank loans, which are repayable in installments with the last payment on June 5, 2005;

NT\$1,710 million 5.6% secured domestic bonds due April 27, 2005; these bonds are repayable in seven equal semi-annual installments from April 27, 2002;



## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

NT\$15 billion unsecured domestic bonds consisting of two tranches: NT\$7.5 billion 5.185% unsecured bonds due April 2006 and NT\$7.5 billion 5.285% unsecured bonds due April 2008;

NT\$10 billion unsecured domestic bonds consisting of two tranches: NT\$5 billion 3.420% unsecured bonds due October 2004 and NT\$5 billion 3.520% unsecured bonds due October 2006;

NT\$15 billion unsecured domestic bonds, consisting of two tranches: NT\$7.5 billion five-year unsecured bonds with interest rates of 4.0% minus 12-month U.S. dollar LIBOR but at the minimum of 0%, and NT\$7.5 billion seven-year unsecured bonds with interest rates of 4.3% minus 12-month U.S. dollar LIBOR but at the minimum of 0%;

US\$241 million Zero Coupon Convertible Bonds due 2004;

## Table of Contents

In December 2001, we issued US\$302.4 million Zero Coupon Convertible Bonds due 2004. As of December 31, 2003 the outstanding amount under these bonds were US\$241 million. We redeemed all of these bonds at maturity on March 1, 2004.

US\$235 million Zero Coupon Exchangeable Bonds due 2007;

In May 2002, we issued US\$235 million Zero Coupon Exchangeable Bonds due 2007. The proceeds of this offering have been used to purchase equipment for Fab 8D. These bonds, which are scheduled to mature on May 10, 2007, are exchangeable, at the option of the bondholders, into common shares or ADSs of AU Optronics at an initial exchange price of NT\$59.34 per common share of AU Optronics at any time on or after June 19, 2002, and are redeemable by us under certain circumstances on or any time after August 10, 2002 and prior to May 10, 2007. As of May 31, 2004, US\$136,310,000 of Zero Coupon Exchangeable Bonds due 2007 were exchanged into 86,003,271 of common shares of AU Optronics. The current exchange price is NT\$51.3 per common share of AU Optronics.

US\$200 million Zero Coupon Exchangeable Bonds due 2008;

In July 2003, we issued US\$206 million Zero Coupon Exchangeable Bonds due 2008. The proceeds of this offering have been used to purchase raw materials overseas. These bonds, which were scheduled to mature on July 15, 2008, were exchangeable into common shares of AU Optronics at the option of the bondholders and redeemable by us under certain circumstances at any time on or after January 15, 2004 and prior to July 15, 2008. We redeemed all of these bonds on May 4, 2004.

¥9,350 million Zero Coupon Convertible Bonds due 2007; and

In March 2002, UMCJ issued ¥17,000 million Zero Coupon Convertible Bonds due 2007 at an issue price of 101.75% of the principal amount. In December 31, 2003, we had an outstanding amount of Zero Coupon Convertible Bonds due 2007 of ¥9,350 million. The proceeds of this offering have been used to finance capital expenditures and repay certain loans. The initial conversion price was set at ¥400,000 per share, subject to adjustments upon the occurrence of certain events set forth in the indenture. The current conversion price is ¥400,000 per share. As of December 31, 2003, UMCJ repurchased a total amount of ¥7,650 million of the bonds from the open market. The bonds are redeemable by UMCJ under certain circumstances at any time on or after March 25, 2005 and prior to March 26, 2007.

¥21,500 million Zero Coupon Convertible Bonds due 2013.

In November 2003, UMCJ issued ¥21,500 million Zero Coupon Convertible Bonds due 2013 at an issue price of 101.25% of the principal amount. The proceeds of this offering have been used to finance capital investments and our investments in UMCi. The conversion price was set at ¥187,500 per share, subject to adjustments upon the occurrence of certain events set forth in the indenture. The bonds are redeemable by UMCJ under certain circumstances at any time on or after November 27, 2006 and prior to November 25, 2013.

Among the long-term loans, the current portion due within one year was NT\$4,218 million (US\$124 million) as of December 31, 2003. Among the bonds, the current portion due within one year was NT\$16,706 million (US\$491 million).

We held several credit-linked deposits and repackage bonds with a total amount of approximately NT\$4,167 million (US\$123 million) as of December 31, 2003. The repayment in full, including any accrued interest, of these deposits is subject to the non-occurrence of one or more

credit events, which are referenced to the entities' fulfillment of their own obligations as well as repayment of their corporate bonds. Upon the occurrence of one or more of such credit events, we may receive nil or less than the full amount of these deposits and any payment received may be delayed due to the occurrence of certain events. The underlying reference entities are summarized as follows:

**Table of Contents**

<b>Principal Amount in Original Currency</b>	<b>Reference Entities</b>
US\$30 million	Siliconware Precision Industries Co., Ltd., or Siliconware
US\$4.2 million	King Yuan Electronics Co., Ltd.
US\$15 million	UMCi
US\$5 million	Stark Technology, Inc.
US\$5 million	Fubon Financial Holding Co., Ltd., Siliconware and our company
US\$5 million	Cathay Financial Holding Co., Ltd.
US\$2 million	Chi Feng Home Fashions Co., Ltd.
¥5.1 billion	UMCJ
NT\$100 million	Our company
NT\$210 million	Siliconware

We have entered into several construction contracts for the expansion of our factory space. As of December 31, 2003, these construction contracts amounted to NT\$900 million (US\$26 million) with an un-accrued portion of the contracts of NT\$460 million (US\$14 million). We have entered into several wafer-processing contracts with our main customers. Under the terms of these contracts, we will guarantee processing capacity, while our customers will make deposits to us.

For 2003, we spent approximately NT\$24,820 million (US\$730 million) primarily to purchase 8-inch and 12-inch wafer-processing equipment and other equipment for research and development purposes. Our initial budget for purchases of semiconductor manufacturing equipment for 2004 is approximately US\$2.12 billion. We may adjust the amount of our capital expenditures upward or downward based on the progress of our capital projects, market conditions and our anticipation of future business outlook.

We believe that our existing cash and cash equivalents and short-term investments will be sufficient to meet our working capital and capital expenditure requirements at least through the end of 2004. We also expect to fund a portion of our capital requirements in 2004 through the cash provided by operating activities. Due to rapid changes in technology in the semiconductor industry, however, we have frequent demand for investment in new manufacturing technologies. We cannot assure you that we will be able to raise additional capital, should that become necessary, on terms acceptable to us, or at all. If financing is not available on terms acceptable to us, management intends to reduce expenditures so as to delay the need for additional financing. To the extent that we do not generate sufficient cash flows from our operations to meet our cash requirements, we may rely on external borrowings and securities offerings to finance our working capital needs or our future expansion plans. The sale of additional equity or equity-linked securities may result in additional dilution to our shareholders. Our ability to meet our working capital needs from cash flow from operations will be affected by the demand for our products and change in our product mix, which in turn may be adversely affected by several factors. Many of these factors are outside of our control, such as economic downturns and declines in the average selling prices of our products. The average selling prices of our products have been subjected to downward pressure in the past and are reasonably likely to be subject to further downward pressure in the future. We have not historically relied, and we do not plan to rely in the foreseeable future, on off-balance sheet financing arrangements to finance our operations or expansion.

**Transactions with Related Parties**

Our transactions with related parties have been conducted on arm's length terms. See Item 7. Major Shareholders and Related Party Transactions B. Related Party Transactions and Note 23 to our audited consolidated financial statements included in this annual report.

**Inflation/Deflation**

The economy in Taiwan has experienced deflation since the turn of this century. The deflation rates in Taiwan were approximately 0.01%, 0.20% and 0.28% in 2001, 2002 and 2003, respectively. We do not believe that deflation in Taiwan has had a material impact on our results of operations.

**Table of Contents****US GAAP Reconciliation**

Our consolidated financial statements are prepared in accordance with ROC GAAP, which differs in certain material respects from US GAAP. Such differences include methods of consolidation and methods for measuring the amounts shown in the financial statements, as well as additional disclosures required by US GAAP. Please see Note 31 to our audited financial statements, included in this annual report, for further discussion and quantification of these differences. The following table sets forth a comparison of our net income and stockholders' equity in accordance with ROC GAAP and US GAAP for the periods indicated.

	Year Ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
	(in millions)			
<b>Net income (loss)</b>				
Net income (loss), ROC GAAP	(3,157)	7,072	14,020	412
US GAAP adjustments:				
Compensation	(4,526)	(7,349)	(2,915)	(86)
Investment in marketable securities	(2,989)	(319)	2,447	72
Equity investments:				
Compensation	(1,489)	(471)	(421)	(12)
Net income variance between US GAAP and ROC GAAP	(299)	(126)	(111)	(3)
Adjustments due to change in interest of investee companies for convertible bonds	796	449	(279)	(8)
Derivative instruments		1,752	(1,888)	(56)
Convertible/Exchangeable bonds		(691)	(619)	(18)
Income tax effect	700	(23)	242	7
Consolidated goodwill amortization	(12,283)			
Net income (loss), US GAAP	(23,247)	294	10,476	308

	As of December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
	(in millions)			
<b>Stockholders' equity</b>				
Total stockholders' equity, ROC GAAP	213,322	217,424	232,233	6,832
Compensation		67	129	4
Equity investments				
Net income variance between US GAAP and ROC GAAP	(618)	(592)	(477)	(14)
Stockholders' equity variance between US GAAP and ROC GAAP	448	1,560	951	28
Investment in marketable securities	37,020	14,963	31,189	918
Treasury stock	(176)	(8)	(3)	
Unamortized goodwill due to acquisition	98,268	98,268	98,268	2,891
Adjustments due to change in interest of investee companies for convertible bonds	1,528	1,605	1,653	49
Derivatives instruments		1,752	(156)	(5)
Convertible/Exchangeable bonds		(691)	(1,310)	(39)
Income tax effect	(300)	(323)	(81)	(2)

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Stockholders' equity, US GAAP	349,492	334,025	362,396	10,662
-------------------------------	---------	---------	---------	--------

The principal differences between ROC GAAP and US GAAP as they relate to our results of operations are the treatment of: (1) compensation expenses pertaining to stock bonuses to employees and (2) derivative instruments.

### *Compensation Expenses*

Under our articles of incorporation, we are required, under certain circumstances, to allocate a certain portion of annual net income to employee bonuses. See Item 10. Additional Information B. Memorandum and Articles of Association Dividends and Distributions elsewhere in this annual report. We paid employee bonuses in 2001, 2002 and 2003 in the form of shares and expect to pay employee bonuses in future periods in the form of shares. The number of shares distributed as part of employee bonuses is obtained by dividing the total nominal, NT dollar amount of the bonus to be paid in the form of shares by the par value of the shares, or NT\$10 per share, rather than

---

**Table of Contents**

their market value, which has generally been substantially higher than par value. Under ROC GAAP, the distribution of employee bonus shares is treated as an allocation from retained earnings, and we are not required to, and do not, charge the value of the employee bonus shares to income. Under US GAAP, however, we are required to charge the market value of the employee bonus shares to compensation expense in the period to which they relate, correspondingly reducing our net income and earnings per share calculated in accordance with US GAAP. Under US GAAP, the compensation expense is initially accrued when services are rendered and both the number of shares to be issued and the price per share are known. Since the actual amount of the compensation is subject to shareholders' approval and only determinable at the annual shareholders' meeting, which is generally held after the issuance of our financial statements, we will make the accrual in accordance with the number of shares to be issued under our articles of incorporation, valuing by the closing price at the balance sheet date. When bonuses are approved by the shareholders in the subsequent year, which normally occurs during the second fiscal quarter, an additional compensation expense is recorded for the difference between the amount initially accrued and the fair market value of the shares actually granted to employees. In addition, since such adjustment for compensation expense for the purpose of US GAAP reconciliation is made in the second quarter of each fiscal year and the major amount of the adjustment is charged to the results for this quarter, the adjustment has a disproportionate impact on the results for the second quarter under US GAAP. Therefore, quarterly net income and income per share amounts calculated in accordance with US GAAP tend to be understated on an annualized basis for the second quarter and overstated for the other quarters.

The amounts charged to employee compensation expense, including certain distributions to directors and supervisors, under US GAAP in respect of the bonus distribution in 2001, 2002 and 2003 were NT\$4,526 million, NT\$7,349 million and NT\$2,915 million (US\$86 million), respectively, representing an aggregate of 378 million shares. Compensation expense accrued, before allocation to inventories, under US GAAP in 2001, 2002 and 2003, for the anticipated 2001, 2002 and 2003 bonus distribution, respectively, was nil, NT\$830 million and NT\$2,550 million (US\$75 million), respectively. The amounts chargeable to income under US GAAP in 2003 in respect of the portion of the 2002 bonus distribution paid in the form of our shares, were NT\$433 million, and that in future periods such amounts will continue to be substantial. Net income and earnings per share amounts calculated in accordance with ROC GAAP and US GAAP will differ accordingly. See Note 31 to our consolidated financial statements.

*Derivative Instruments*

Under US GAAP, as prescribed by SFAS No.133, *Accounting for Derivative Instruments and Hedging Activities*, the derivative instruments embedded in our exchangeable bonds and convertible bonds are bifurcated and separately accounted for since the economic characteristics and risks of the embedded derivative instruments and the host contracts are not clearly and closely related, and the contracts that embody both the embedded derivative instruments and the host contracts are not remeasured at fair value with changes in fair value reported in earnings. As a result, the exchange and conversion options embedded were bifurcated and accounted for as freestanding derivative instruments and the changes in fair value were included in earnings of the year accordingly. See Note 31 to our consolidated financial statements.

In addition to some of the factors that affect results of operations as discussed above, the principal differences between ROC GAAP and US GAAP as they relate to our stockholders' equity are the treatment of: (1) marketable securities and (2) consolidated goodwill as discussed below.

*Marketable Securities*

Under ROC GAAP, marketable securities are carried at the lower of aggregate cost or market value. The unrealized loss resulting from the decline in market value of investments that are held for short-term investment purposes is charged to current year's earnings while unrealized loss resulting from the decline in market value of investments that are held for long-term purposes is deducted from the stockholders' equity. Under US GAAP, debt securities that we have 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 securities are classified as available-for-sale

## **Table of Contents**

securities and reported at fair value, with unrealized gains and losses excluded from earnings and reported in a separate component of stockholders' equity. See Note 31 to our consolidated financial statements.

### *Consolidated Goodwill*

Under ROC GAAP, the fair value of the net assets received is deemed to be the value of the consideration for the acquisition of the remaining interests in United Semiconductor, United Silicon, UTEK Semiconductor and United Integrated Circuits and is reflected in the common stock and capital reserve in the balance sheet. We estimated the fair value of the net assets acquired through two valuation models, a profitability and net worth model and a discounted cash flow model. We also used other considerations such as the valuation of current operations, synergies, technical knowledge and future prospects. Under US GAAP, the acquisition was accounted for using the purchase method of accounting and the purchase price is determined using the market value of the shares exchanged. The difference between the fair value of the shares exchanged and the fair value of the net assets acquired creates goodwill. Goodwill was amortized on a straight-line basis over ten years up to January 1, 2002. Upon the first adoption of SFAS No. 141 Business Combinations & SFAS No. 142 Goodwill and Other Intangible Assets on January 1, 2002, the goodwill ceased to be amortized and is subject to impairment test only.

### *Recent Accounting Pronouncements*

In June 2001, the FASB issued SFAS No. 143, Accounting for Asset Retirement Obligations, which addresses financial accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated asset retirement costs. The standard applies to legal obligations associated with the retirement of long-lived assets that result from the acquisition, construction, development and/or normal use of the asset.

SFAS No. 143 requires that the fair value of a liability for an asset retirement obligation be recognized in the period in which it is incurred if a reasonable estimate of fair value can be made. The fair value of the liability is added to the carrying amount of the associated asset and this additional carrying amount is depreciated over the life of the asset. The liability is accreted at the end of each period through charges to operating expense. If the obligation is settled for other than the carrying amount of the liability, we will recognize a gain or loss on settlement.

In June 2002, the FASB issued SFAS No. 146, Accounting for Costs Associated with Exit or Disposal Activities. The Statement represents the second and final phase of the FASB's project on accounting for the impairment or disposal of long-lived assets and for obligations associated with exit or disposal activities. The adoption of SFAS No. 143 and SFAS No. 146 in January 2003 did not have any material effect on our financial position, results of operations, and cash flows.

In April 2003, the FASB issued SFAS No. 149, Amendment of Statement 133 on Derivative Instruments and Hedging Activities. This Statement amends and clarifies financial accounting and reporting for derivative instruments, including certain derivative instruments embedded in other contracts and for hedging activities under SFAS No. 133. SFAS No. 149 is effective for contracts entered into or modified after June 30, 2003. For those provisions related to SFAS No. 133 that have been effective prior to June 15, 2003, they should continue to be applied in accordance with their respective effective dates. The adoption of SFAS No. 149 did not have any material impact on our consolidated financial statements.

In May 2003, the FASB issued SFAS Statement No. 150, Accounting for Certain Financial Instruments with Characteristics of both Liabilities and Equity. This Statement establishes standards for how an issuer classifies and measures certain financial instruments with characteristics of

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

both liabilities and equity. It requires that an issuer classify a financial instrument that is within its scope as a liability (or an asset in some circumstances). SFAS No. 150 is effective for financial instruments entered into or modified after May 31, 2003, and otherwise is effective at the beginning of the first interim period beginning after June 15, 2003. The adoption of SFAS No.150 is not expected to have a material effect on our earnings or financial position.

Issued in January and revised in December 2003, the FASB's Interpretation No. 46, Consolidation of Variable Interest Entities (FIN 46) requires an investor with a majority of the variable interests in a variable interest entity, or VIE, to consolidate the entity and also requires majority and significant variable interest investors to

## **Table of Contents**

provide certain disclosures. A VIE is an entity in which the equity investors do not have a controlling interest or the equity investment at risk is insufficient to finance the entity's activities without receiving additional subordinated financial support from the other parties. Under the new guidance, special effective date provisions apply to enterprises that have fully or partially applied FIN 46 prior to issuance of the revised interpretation. Otherwise, application of FIN 46 is required in financial statements of public entities that have interests in structures that are commonly referred to as special-purpose entities ending after December 15, 2003. Application by public entities for all other types of variable interest entities is required in financial statements for periods ending after March 15, 2004. We have not identified any VIE that must be consolidated, which we did not consolidate in the past, and did not anticipate any material effect on our consolidated financial statements for the year ended December 31, 2003.

In November 2002, the EITF reached a consensus on EITF No. 00-21, Revenue Arrangements with Multiple Deliverables. EITF No. 00-21 provides guidance on when and how to separate elements of an arrangement that may involve the delivery or performance of multiple products, services, and/or rights to use assets into separate units of accounting. This consensus, which was modified in May 2003, is applicable to arrangements entered into for reporting periods beginning after June 15, 2003. We do not expect a material impact on its financial statements resulting from the adoption of the issue.

### **C. Research, Development, Patents and Licenses, Etc.**

The semiconductor industry is characterized by rapid changes in technology, frequently resulting in obsolescence of process technologies and products. As a result, effective research and development is essential to our success. We invested approximately NT\$8,960 million, NT\$7,368 million and NT\$5,859 million (US\$172 million) in 2001, 2002 and 2003, respectively, in research and development, which represented 12.8%, 9.8% and 6.1%, respectively, of net operating revenues for such periods. We believe that our continuous spending on research and development will help us maintain our position as a technological leader in the foundry industry. As of April 30, 2004, we employed 497 professionals in our research and development division, 15% of whom hold Ph.D. degrees.

Our current research and development activities seek to upgrade and integrate manufacturing technologies and processes, as well as to develop embedded memory technologies, including DRAM, SRAM, 1T-SRAM, 6T-SRAM and nonvolatile memories, and advanced device technologies, including SOI and strained silicon. Although we emphasize firm-wide participation in the research and development process, we maintain a central research and development team primarily responsible for developing cost-effective technologies that can serve the manufacturing needs of our customers. Monetary incentives are provided to our employees if projects result in successful patents. A substantial portion of our research and development activities are undertaken in cooperation with our customers and equipment vendors.

To further enhance our research and development capability, in January 2000 we became the first non-U.S. member of Semiconductor Research Corporation, or SRC, a leading research institute for semiconductor technologies. We, as an active participant in every SRC program, have been working with member companies in conducting fundamental research in semiconductor technologies. The current membership of SRC comprises leading technology companies such as IBM, Intel, Texas Instruments, AMD and Motorola.

### **D. Trend Information**

Please refer to Overview for a discussion of the most significant recent trends in our production, sales, costs and selling prices. In addition, please refer to discussions included in this Item for a discussion of known trends, uncertainties, demands, commitments or events that we believe are reasonably likely to have a material effect on our net operating revenues, income from continuing operations, profitability, liquidity or capital resources, or that would cause reported financial information not necessarily to be indicative of future operating results or financial condition.

**E. Off-balance Sheet Arrangements**

We do not generally provide letters of credit to, or guarantees for, or engage in any repurchase financing transactions with any entity other than our consolidated subsidiaries. We have, from time to time, entered into

**Table of Contents**

interest rate swaps and cap agreements to manage our interest rate risks on our floating rate debt instruments and foreign currency forward contracts to hedge our existing assets and liabilities denominated in foreign currencies and identifiable foreign currency purchase commitments. We do not engage in any trading activities. See Item 11. Quantitative and Qualitative Disclosure about Market Risk .

**F. Tabular Disclosure of Contractual Obligations**

The following table sets forth our contractual obligations and commitments with definitive payment terms on a consolidated basis which will require significant cash outlays in the future as of December 31, 2003.

Contractual Obligations	Payments Due by Period				
	Total	Less Than			After
		1 Year	1-3 Years	4-5 Years	5 Years
	(consolidated)				
	(in NT\$ millions)				
Long-term debt <sup>(1)</sup>					
Secured long-term loans	2,739	1,818	629	292	
Unsecured long-term loans	3,599	2,399	1,200		
Secured bonds	1,710	1,140	570		
Unsecured bonds	40,000	7,250	14,750	18,000	
Capital lease obligations <sup>(2)</sup>	18	18			
Operating leases <sup>(3)</sup>	3,313	191	369	334	2,419
Other long-term obligations <sup>(4)</sup>	6,210	2,457	2,483	1,270	
<b>Total contractual cash obligations</b>	<b>57,589</b>	<b>15,273</b>	<b>20,001</b>	<b>19,896</b>	<b>2,419</b>

<sup>(1)</sup> Excludes our payment obligations under the convertible bonds and exchangeable bonds due to the number of bondholders that will elect conversion or early redemption of their bonds within the periods specified above cannot be determined.

<sup>(2)</sup> Represents our obligations to make lease payments for equipment.

<sup>(3)</sup> Represents our obligations to make lease payments to use the land on which our fabs are located, primarily in the Hsinchu Science Park and the Tainan Science Park in Taiwan and Pasir Ris Wafer Fab Park in Singapore.

<sup>(4)</sup> Represents intellectual properties and royalties payable under our technology license agreements. The amounts of payments due under these agreements are determined based on fixed contract amounts.

**ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES****A. Directors and Senior Management**

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

The following table sets forth the name, age, position and tenure of each of our directors, supervisors and executive officers as of March 31, 2004. There is no family relationship among any of these persons. During the shareholders meeting held on June 1, 2004, our shareholders elected three new directors, Jack K.C. Wang, Mao-Chung Lin and Paul S.C. Hsu. The new directors took their offices on June 1, 2004. The business address of our directors, supervisors and executive officers is the same as our registered address.

<u>Name</u>	<u>Age</u>	<u>Position</u>	<u>Tenure with Us</u>
Robert H.C. Tsao	57	Chairman and managing director	23
John Hsuan	52	Vice Chairman and managing director	22
Peter Chang	58	Vice Chairman and managing director (Representative of Hsun Chieh Investment Co.)	12
Jackson Hu	55	Director (Representative of Chuin Li Investment Co.) and Chief Executive Officer	1
Hong-Jen Wu	52	Director (Representative of Chuin Tsie Investment Co.) and Business Group President	24

**Table of Contents**

<b>Name</b>	<b>Age</b>	<b>Position</b>	<b>Tenure with Us</b>
Tsing-Yuan Hwang <sup>(1)</sup>	55	Director (Representative of Hsun Chieh Investment Co.)	9
Ching-Chang Wen <sup>(2)</sup>	54	Director (Representative of Chuin Tsie Investment Co.) and Business Group President	6
Fu-Tai Liou <sup>(1)</sup>	51	Director (Representative of Shieh Li Investment Co.) and Business Group President	7
Stan Hung <sup>(1)</sup>	44	Director (Representative of Shieh Li Investment Co.) and Chief Financial Officer	13
Chris Chi <sup>(1)</sup>	53	Director (Representative of Chuin Li Investment Co.) and President	7
Mao-Chung Lin <sup>(3)</sup>	72	Supervisor	15
Jack K.C. Wang <sup>(3)</sup>	57	Supervisor	9
Tzyy Jang Tseng	54	Supervisor (Representative of Hsun Chieh Investment Co.)	2
Shih-Wei Sun	47	Senior Vice President	9

<sup>(1)</sup> The term of the director expired on May 29, 2004.

<sup>(2)</sup> Ching-Chang Wen is a representative of Shieh Li Investment Co. after the shareholders meeting on June 1, 2004.

<sup>(3)</sup> The term of the supervisor expired on May 29, 2004.

The following table sets forth the name, age and position of each of the new director and supervisor who took office on June 1, 2004.

<b>Name</b>	<b>Age</b>	<b>Position</b>
Jack K.C. Wang	57	Director
Mao-Chung Lin	72	Director
Paul S.C. Hsu	68	Director
Tsing-Yuan Hwang	55	Supervisor (Representative of Chuin Tsie Investment Co.)
Tzong-Yeong Lin	53	Supervisor (Representative of Chiao Tung Bank)

**Robert H.C. Tsao** is the Chairman and a managing director of our company. Mr. Tsao was also our Chairman from 1991 to April 2000. Mr. Tsao received a Master's degree in Management Science from the National Chiao-Tung University in 1972. Before joining United Microelectronics in 1981, Mr. Tsao was the Vice Chairman of Electronics Research & Service Organization from 1979 to 1981. Mr. Tsao is also a director of Mega Financial Holding Company, Unimicron Technology Corp., and United Microdisplay Optronics Corporation and the Chairman of Faraday Technology Corp., UMC Japan, UMCi Ltd., Fortune Venture Capital Corporation, and Hsun Chieh Investment Co., Ltd.



## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

**John Hsuan** is a Vice Chairman and a managing director of our company. Mr. Hsuan was our Chairman from April 2000 to May 2001. Mr. Hsuan received a Bachelor's degree in Electronics Engineering from the National Chiao-Tung University in 1973. Before joining us in 1982, Mr. Hsuan was a manager of Electronics Research & Service Organization from 1977 to 1982. Mr. Hsuan is a director of Unimicron Technology Corp., Faraday Technology Corp., Fortune Venture Capital Corporation, UMC Japan, and Hsun Chieh Investment Co., Ltd. and the Chairman of SiS and United Microdisplay Optronics Corporation.

**Peter Chang** is a Vice Chairman and a managing director of our company. Mr. Chang is the representative of Hsun Chieh Investment Co. Mr. Chang holds a Master's degree in Electrical Engineering from the University

## Table of Contents

of Texas at Austin in 1971. Prior to becoming a director and the CEO of our company in 1999, Mr. Chang served as the President of United Semiconductor from 1996 to 1999. Mr. Chang is also a director of UMCJ and UMCi.

**Jackson Hu** is a director and the Chief Executive Officer of our company. Mr. Hu is the representative of Chuin Li Investment Co. Dr. Hu earned his Bachelor's degree in electrical engineering from National Taiwan University in 1971 and later his Master's and Ph.D. degrees in Computer Science from the University of Illinois at Urbana-Champaign. He also obtained a MBA from Santa Clara University. Dr. Hu joined us at the beginning of 2003 as the President of our New Business Development Group and Head of the Design Support Division. Prior to joining us, Dr. Hu served as the president and chief executive officer of SiRF Technology Inc. from 1996 to 2002 and the senior vice president and general manager of S3 from 1994 to 1996. Mr. Hu is also a director of SiS, UMCi, Arcadia Design System and Compac Communications, Inc.

**Hong-Jen Wu** is a director and a Business Group President of our company. Mr. Wu is the representative of Chuin Tsie Investment Co. Mr. Wu holds both Bachelor's and Master's degrees in Chemical Engineering from the National Taiwan University in 1976. Prior to joining United Microelectronics in 1980, Mr. Wu was a Senior Engineer at Taiwan General Equipment Corp. Mr. Wu is also a director of AU Optronics, a director and the President of UMCJ and the Chairman of DuPont Photomasks Taiwan Ltd.

**Ching-Chang Wen** is a director and a Business Group President of our company. Dr. Wen is the representative of Shieh Li Investment Co. He received a Ph.D. degree in Electrical Engineering from the University of Pennsylvania in 1979. Prior to joining United Microelectronics in 1996, Dr. Wen served as Vice President of Winbond Electronics Corp. Mr. Wen is also a director of DuPont Photomasks Taiwan Ltd.

**Fu-Tai Liou** is a Business Group President of our company. Dr. Liou was a director of our company from May 2001 to May 2004. Dr. Liou is the representative of Shieh Li Investment Co. Dr. Liou received a Ph.D. degree in Material Science and Engineering from the State University of New York at Stony Brook in 1979. Prior to joining United Microelectronics in 1997, Dr. Liou was the Vice President of SGS-Thompson.

**Stan Hung** is the Chief Financial Officer of our company. Mr. Hung was a director of our company from May 2001 to May 2004. Mr. Hung is the representative of Shieh Li Investment Co. Mr. Hung received a Bachelor's degree in Accounting from TamKang University in 1982. Prior to joining United Microelectronics in 1991, Mr. Hung was a Manager at Unipac Optoelectronics Corporation. Mr. Hung is also a supervisor of Spring Soft Co., Ltd. and a director of UMCJ, Hsun Chieh Investment Co., Ltd., Harvatek Corp., Mega Financial Holding Company, United Microdisplay Optronics Corporation and Fortune Venture Capital Corporation.

**Chris Chi** is the President of our company. Mr. Chi was a director of our company from May 2001 to May 2004. Mr. Chi is the representative of Chuin Li Investment Co. Mr. Chi received a Master's degree in Material Engineering from the University of California at Los Angeles. Prior to joining United Microelectronics in 1997, Mr. Chi was the Senior Vice President of Chartered Semiconductor Manufacturing Ltd. Mr. Chi is also a director and the President of UMCi and a director of UMCJ.

**Mao-Chung Lin** is a newly elected director of our company. Mr. Lin was a supervisor of our company from May 2001 to June 2004. Mr. Lin received a Bachelor's degree in Business Administration from the National Taiwan University in 1955. Mr. Lin is also the President of Sunrox International, Inc.

**Jack K. C. Wang** is a newly elected director of our company. Mr. Wang was a supervisor of our company from May 2001 to June 2004. Mr. Wang received a Bachelor's degree in Chinese Literature from the Culture University in Taiwan in 1955. Mr. Wang is also the Chairman of Sen

Dah Investment Co., Ltd.

**Paul S.C. Hsu** is a newly elected director of our company. Professor Hsu received a Ph.D. degree in Business Administration from The University of Michigan in 1974. Professor Hsu is Far East Group Chair Professor of Management, Yuan-Ze University, Taiwan and the Dean of Chinese Management Association.

**Table of Contents**

**Tzyy Jang Tseng** is a supervisor of our company. Mr. Tseng is the representative of Hsun Chieh Investment Co. Mr. Tseng received a Master's degree in Physics from the National Tsing Hua University of Taiwan. Mr. Tseng is also the Chairman of Unimicron Technology, Harvatek Corp., a supervisor of Fortune Venture Capital Corporation and a director of Premier Image Technology Corporation.

**Tsing-Yuan Hwang** is a supervisor of our company and the representative of Chuin Tsie Investment Co. Mr. Hwang was a director of our company from May 1998 to June 2004. Mr. Hwang received an MBA from the Nihon University in 1982. Mr. Hwang is also an executive officer of Daiwa Securities SMBC Co., Ltd. and a director of President Chain Store Corp. and Hon Hai Precision Industry Co., Ltd.

**Tzong-Yeong Lin** is a newly elected supervisor of our company. Mr. Lin is the representative of Chiao Tung Bank. Mr. Lin holds a Master's degree in Law from National Taiwan University. Mr. Lin is the Chief Executive Officer of Mega Financial Holding Company.

**Shih-Wei Sun** is a Senior Vice President of our company and is in charge of our Research and Development Department. Mr. Sun holds a Ph.D. degree in Electronics Materials from Northwestern University.

**B. Compensation**

The aggregate compensation paid in 2003, including an aggregate bonus of 365,000 shares, to our directors, supervisors and executive officers, was approximately NT\$47.4 million (US\$1.4 million). The number of shares distributed as employee bonus was calculated by dividing the total nominal amount of the bonus by NT\$10, the per share par value of our shares, rather than their market value. The market value of our shares is currently substantially higher than par value. The following table sets forth total compensation paid to each of our directors and supervisors in their respective capacities in 2003.

Name	Capacity	Total Compensation (in NT\$ thousands)
Robert H.C. Tsao	Chairman and managing director	435
John Hsuan	Vice Chairman and managing director	435
Peter Chang	Vice Chairman and managing director (Representative of Hsun Chieh Investment Co.)	435 <sup>(1)</sup>
Jackson Hu	Director (Representative of Chuin Li Investment Co.) and Chief Executive Officer	435 <sup>(1)</sup>
Hong-Jen Wu	Director (Representative of Chuin Tsie Investment Co.) and Business Group President	435 <sup>(1)</sup>
Tsing-Yuan Hwang	Director (Representative of Hsun Chieh Investment Co.)	435 <sup>(1)</sup>
Ching-Chang Wen	Director (Representative of Chuin Tsie Investment Co.) and Business Group President	435 <sup>(1)</sup>
Fu-Tai Liou		435 <sup>(1)</sup>

Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

	Director (Representative of Shieh Li Investment Co.) and Business Group President	
Stan Hung	Director (Representative of Shieh Li Investment Co.) and Chief Financial Officer	435 <sup>(1)</sup>
Chris Chi	Director (Representative of Chuin Li Investment Co.) and President	435 <sup>(1)</sup>
Mao-Chung Lin	Supervisor	435

**Table of Contents**

Name	Capacity	Total Compensation (in NT\$ thousands)
Jack K.C. Wang	Supervisor	435
Tzyy Jang Tseng	Supervisor (Representative of Hsun Chieh Investment Co.)	435 <sup>(1)</sup>

<sup>(1)</sup> Paid to legal entity for which individual served as representative.

**C. Board Practices**

All of our directors and supervisors were elected in June 2004 for a term of three years. Neither we nor any of our subsidiaries has entered into a contract with any of our directors and supervisors by which our directors or supervisors are expected to receive benefits upon termination of their employment.

In November 2003, the Securities and Exchange Commission approved changes to the NYSE's listing standards related to the corporate governance practices of listed companies. Under these rules, listed foreign private issuers, like us, must disclose any significant ways in which their corporate governance practices differ from those followed by NYSE-listed U.S. domestic companies under the NYSE's listing standards. We believe the following to be the significant differences between our corporate governance practices and NYSE corporate governance rules applicable to U.S. companies.

Under the NYSE listing standards applicable to U.S. companies, independent directors must comprise a majority of the board of directors. We plan to have three independent directors on our board of directors. Our standards in determining director independence will substantially comply with the NYSE listing standards, which include detailed tests for determining director independence. Under our standards, however, we will allow past supervisors to be elected and qualify as independent directors even though in their prior capacity as supervisors they received a supervisor fee. Under ROC law, supervisors are non-employees and non-management persons with corporate oversight duties, including, among other things, investigating the business and financial condition of the company they serve, inspecting corporate records and calling shareholders meetings under certain circumstances. Our board assesses director independence and will affirm that a director is independent only if the director is free from any business or other relationship that would impair the exercise of his independent judgment. We may waive certain independence requirements under the NYSE listing standards if our board believes that certain facts would not impair a director's independence. In addition, pursuant to the NYSE listing standards, non-management directors must meet on a regular basis without management present. We are in the process of devising an audit committee charter, which will set forth the schedule of the meetings of our non-management directors without the presence of our management.

On April 1, 2003, the Securities and Exchange Commission adopted final rules relating to the audit committee requirements. NYSE-listed foreign private issuers are required to adopt and make effect the related NYSE listing requirements by July 31, 2005. We do not currently have an audit committee. We intend, however, to comply with all applicable rules and regulations and NYSE listing requirements regarding the need for, and composition of, an audit committee. Prior to forming an audit committee, our board of directors is responsible for performing the functions that our audit committee will, upon establishment, perform. We are currently devising an audit committee charter, which will set forth, among other things, our audit committee's responsibility to select independent auditors, to pre-approve all auditing and non-auditing services permitted to be performed by the independent auditors and to provide oversight of the work of the independent auditors, and the procedures for receipt, retention and treatment of complaints regarding accounting, internal accounting controls or auditing matters.

Under the NYSE listing standards, companies are required to have a nominating/corporate governance committee, composed entirely of independent directors. In addition to identifying individuals qualified to become board members, the nominating/corporate committee must develop and recommend to the board a set of corporate governance principles. The ROC Company Act requires that directors shall be elected by

shareholders, but does not set forth the procedures for the nomination of directors or require companies incorporated in the ROC to have a nominating/corporate governance committee. Currently, our board of directors performs the duties of the

**Table of Contents**

nominating/corporate governance committee and regularly reviews our corporate governance principles and practices. Our shareholders may propose director candidates at the shareholders' meeting for the election of directors. In addition, we provide a summary of our compliance with the domestic non-binding corporate governance principles promulgated by the Taiwan Stock Exchange in our ROC annual report.

Under the NYSE listing standards, companies are required to have a compensation committee, composed entirely of independent directors. Under the ROC Company Act, however, companies incorporated in the ROC are not required to have a compensation committee. The ROC Company Act requires that the measures by which director compensation are determined either be set forth in the company's articles of incorporation or be approved in the shareholders' meeting. Currently, in addition to compensation approved at the shareholders' meeting, in the event we have net income, we will distribute 0.1% of our earnings after payment of all income taxes, deduction of any past losses and allocation of 10% of our net income for legal reserves, as remunerations to our directors and supervisors pursuant to our articles of incorporation.

The NYSE listing standards require U.S. companies to adopt a code of business conduct and ethics for directors, officers and employees and promptly disclose any waivers of the code for directors or executive officers. We have adopted a code of ethics which applies to our employees and officers, including our Chief Executive Officer and Chief Financial Officer. We have filed this code of ethics as an exhibit to this annual report and a copy is available to any shareholder upon request.

The NYSE listing standards require that equity compensation plans be approved by a company's shareholders. Under the corresponding domestic requirements in the ROC Company Act and the ROC Securities Exchange Act, shareholders' approval is required for the distribution of employee bonuses in the form of stock, while the board of director has authority, subject to the approval of the ROC SFC, to approve employee stock option plans and to grant options to employees pursuant to such plans and has also authority to approve share buy-back programs for the purpose of transferring shares so purchased to employees and the transfer of such shares to employees pursuant to such programs. We intend to follow only the domestic requirements.

Lastly, a chief executive officer of a U.S. company listed on the NYSE must annually certify that he or she is not aware of any violation by the company of NYSE corporate governance standards. In accordance with NYSE listing rules applicable to foreign private issuers, our Chief Executive Officer is not required to provide the NYSE with this annual compliance certification. However, in accordance with rules applicable to both U.S. companies and foreign private issuers, the Chief Executive Officer is required to promptly notify the NYSE in writing after any executive officer becomes aware of any material noncompliance with the NYSE corporate governance standards applicable to us.

**D. Employees**

As of March 31, 2004, we had 9,261 employees, which included 4,115 engineers, 4,634 technicians and 512 clerical staff performing administrative functions at our plants in Taiwan. 40 of these employees were seconded to the UMCJ in Japan. We have in the past implemented, and may in the future evaluate the need to implement, labor redundancy plans based on the work performance of our employees.

<b>Employees</b>	<b>As of December 31,</b>		
	<b>2001</b>	<b>2002</b>	<b>2003</b>
Engineers	3,753	4,113	3,918
Technicians	4,251	4,478	4,469
Administrative Staff	539	543	510



Total	8,543	9,134	8,897
-------	-------	-------	-------

Employee salaries are reviewed annually. Salaries are adjusted based on industry standards, inflation and individual performance. As an incentive, additional bonuses in cash may be paid at the discretion of management based on the performance of individuals. In addition, except under certain circumstances, ROC law requires us to reserve between 10% to 15% of any offerings of our new shares for employees subscription.

**Table of Contents**

Our employees participate in our profit distribution pursuant to our articles of incorporation. Employees are entitled to receive additional bonuses based on a certain percentage of our allocable surplus income. The amount allocated for employees in 2003 in relation to retained earnings in 2002 totaled NT\$580 million (US\$17 million), all of which were paid in the form of shares. The number of shares issued as employee share bonus is calculated by valuing the shares at their par value, or NT\$10 per share, rather than their fair market value. Accordingly, the value of the shares received by employees is significantly more than the cash amount employees would receive if the employee share bonus was paid in cash. See Item 5. Operating and Financial Review and Prospects US GAAP Reconciliation.

Our employees are not covered by any collective bargaining agreements. We believe we have a good relationship with our employees.

**E. Employee Stock Options Plan**

According to our Employee Stock Options Plan, options may be granted to our full-time regular employees, including those of our domestic and overseas subsidiaries. The exercise price for the options would be the closing price of our common shares on the Taiwan Stock Exchange on the day the options are granted, while the expiration date for such options is 6 years from the date of its issuance. In September 2002 and October 2003, we obtained approvals from relevant ROC authorities for the grant of up to 1,000 million and 150 million stock options to acquire our common shares under our Employee Stock Options Plan. In October 2002, January 2003, November 2003 and March 2004, we granted 939 million, 61 million, 57 million and 33 million stock options, respectively, to our employees.

According to our Employee Stock Options Plan, an option holder may exercise an increasing portion of his or her options in time starting two years after the grant of the options. According to the vesting schedule, 50%, 75% and 100% of such option holder's options shall vest two, three and four years after the grant of the options, respectively. Upon a voluntary termination or termination in accordance with the ROC Labor Law, the option holder shall exercise his or her vested options within 30 days, subject to exceptions provided therein, and after the termination otherwise such options shall terminate. If termination was due to death, the heirs of such option holder have one year starting from the date of the death to exercise his or her vested options. If termination was due to retirement or occupational casualty, the option holder or his or her heirs may exercise all his or her options within certain period as provided. The options are generally not transferable or pledgeable by the option holders.

The following table sets forth the stock options held by each of our directors and executive officers as of March 31, 2004.

Name	Title	Units Granted	Unit Granted/Total
			Outstanding Shares
Robert H.C. Tsao	Chairman and managing director	10,000,000	0.06%
John Hsuan	Vice Chairman and managing director	10,000,000	0.06%
Peter Chang	Vice Chairman and managing director	10,000,000	0.06%
Jackson Hu	Director and Chief Executive Officer	20,000,000	0.12%
Hong-Jen Wu	Director and Business Group President	10,000,000	0.06%

Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Tsing-Yuan Hwang	Director		
Ching-Chang Wen	Director and Business Group President	10,000,000	0.06%
Fu-Tai Liou	Director and Business Group President	10,000,000	0.06%

**Table of Contents**

Name	Title	Units Granted	Unit Granted/Total
			Outstanding Shares
Stan Hung	Director and Chief Financial Officer	10,000,000	0.06%
Chris Chi	Director and President	10,000,000	0.06%
Shih-Wei Sun	Senior Vice President	8,000,000	0.05%

**F. Share Ownership**

Each of our directors, supervisors and executive officers holds shares and/or ADSs of United Microelectronics, either directly for their own account or indirectly as the representative of another legal entity on our board of directors. As of March 31, 2003, none of our directors, supervisors or executive officers held, for their own account, 1% or more of our outstanding shares. As of April 3, 2004, our most recent record date, Hsun Chieh Investment Co. held approximately 503 million of our shares, representing approximately 3.12% of our issued shares.

**ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS****A. Major Shareholders**

The following table sets forth information known to us with respect to the beneficial ownership of our shares as of (i) April 3, 2004, our most recent record date and (ii) as of certain record dates in each of the preceding three years, for (1) the shareholders known by us to beneficially own more than 2% of our shares and (2) all directors, supervisors and executive officers as a group. Beneficial ownership is determined in accordance with SEC rules.

Name of Beneficial Owner	As of April 3, 2004		As of April 11, 2003	As of April 5, 2002	As of May 30, 2001
	Number of shares beneficially owned on record	Percentage of shares beneficially owned	Percentage of shares beneficially owned	Percentage of shares beneficially owned	Percentage of shares beneficially owned
Hsun Chieh Investment Co., Ltd. <sup>(1)</sup>	503,455,675	3.12%	3.13%	3.16%	3.2%
The government of the ROC <sup>(2)</sup>	359,720,208	2.23%	2.40%	3.45%	5.8%
Xilinx, Inc.	366,808,596	2.27%	2.28%	2.30%	2.3%
Directors, supervisors and executive officers as a group	1,455,440,432	9.02%	8.48%	8.55%	9.3%

<sup>(1)</sup> 99.97% owned by United Microelectronics as of March 31, 2004.

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

- (2) Owned through Chunghwa Post Co., Ltd., Administrative Committee, Yao Hua Glass Co., Ltd. And Ministry of Economic Affairs, R.O.C., governmental agencies and corporations controlled by the government. In March 2002, one of such governmental agencies, the National Financial Stabilization Fund, sold all of our shares it owned through a secondary public offering of 47,537,780 American depositary shares of our company, representing 237,688,900 of our shares.

None of our major shareholders have different voting rights from those of our other shareholders. To the best of our knowledge, we are not directly or indirectly controlled by another corporation, by any foreign government or by any other natural or legal person severally or jointly.

For information regarding our shares held or beneficially owned by persons in the United States, see Item 9. The Offer and Listing Market Price Information for Our American Depositary Shares in this annual report.

## **Table of Contents**

### **B. Related Party Transactions**

#### **Related Party Transactions Policies**

We from time to time have engaged in a variety of transactions with our affiliates. We generally conduct transactions with our affiliates on an arm's-length basis. The sales and purchase prices with related parties were determined through negotiation, generally based on market price. The prices of acquisition or disposal of buildings and facilities with related parties were determined by fair market value, endorsed by an independent professional appraisal company.

#### **United Microelectronics (Europe) BV**

We engaged United Microelectronics (Europe) BV to distribute our products in Europe on a direct sales basis. United Microelectronics (Europe) BV became our wholly-owned subsidiary in mid May 2002. Sales through this company totaled NT\$6,039 million for 2001.

#### **Fabless Design Customers**

In 1997, United Microelectronics made initial investments as a founding shareholder in several fabless design companies, including AMIC Technology Inc., AMIC Technology (Taiwan) Inc., Broadmedia Inc. (which has been merged into C-Com Corporation in August 2003), DAVICOM Semiconductor (Taiwan), Inc., Integrated Telecom Express Inc. (which was liquidated in May 2003), Integrated Technology Express Inc., MediaTek and Novatek, and received a majority interest in AMIC Technology Inc. and minority interests in the other companies. After the establishment of these companies, United Microelectronics sold in 1997 its semiconductor design equipment and related assets to these companies at the fair market value of these assets. In December 2000, United Microelectronics sold all of its shares of AMIC Technology Inc. to AMIC Technology (Taiwan), Inc. In October 2003, we sold 17 million shares of our equity interest in Novatek, and in 2003, we sold 9 million shares of our equity interest in MediaTek. As of March 31, 2004, we held 21.00% and 11.04% in Novatek and MediaTek, respectively.

In connection with the settlement of our litigations with SiS, we and SiS agreed in late 2002 to enter into a broad scope of cooperation, including, among other things, exchange of process patents, production support and our board representation in SiS. To further strengthen our relationship with SiS, we have also decided to invest in SiS. As of March 31, 2004, we held 16.18% of SiS outstanding share capital. In addition, our representatives currently hold four out of seven board seats of SiS, and John Hsuan, our vice chairman, is the chairman of SiS.

SiS is an independent design manufacturer, that is, a company engaging in design and manufacture of semiconductor devices. SiS owns and operates an 8-inch fab in Taiwan. For the past two years, although SiS's own fab was able to manufacture a significant portion of the semiconductor products it designs, it from time to time outsourced to other companies when the market demand exceeded its fabrication capacity. Under our settlement of the legal proceedings with SiS, SiS agreed to engage us as its sole external provider of integrated circuit manufacturing or foundry services for integrated circuits designed with 0.18 micron and smaller feature sizes.

The following table shows our aggregate ownership interest in each of these companies as of March 31, 2004.

<u>Name</u>	<u>Ownership%</u>
Integrated Technology Express Inc.	23.66
Davicom Semiconductor, Inc.	22.96
Novatek Microelectronics Corp.	21.00
Silicon Integrated Systems Corp.	16.18
AMIC Technology (Taiwan), Inc.	29.28
MediaTek Inc.	11.04

**Table of Contents**

In addition, we provide foundry services to these fabless design companies at arm's-length prices and terms. We derived NT\$6,398 million, NT\$13,816 million and NT\$14,255 million (US\$419 million) of our net operating revenues in 2001, 2002 and 2003, from the provision of our foundry services to these fabless design companies.

**Chiao Tung Bank**

Chiao Tung Bank became a wholly-owned subsidiary of Mega Financial Holding Company in 2002. As of March 31, 2004, we had a 1.36% aggregate equity interest in Mega Financial Holding Company, including the 0.52% equity interest held by Hsun Chieh. We received our shareholding in Mega Financial Holding Company as a result of Chiao Tung Bank's becoming a wholly-owned subsidiary of Mega Financial Holding Company. We have appointed Robert H.C. Tsao, member of our board of directors, to serve on the board of directors, and Stan Hung, also a member of our board of directors, to serve as a supervisor, of Mega Financial Holding Company. Chiao Tung Bank is one of our primary lenders. As of December 31, 2003, a total amount of NT\$283 million (US\$8 million) of loans extended by Chiao Tung Bank to us remained outstanding.

**C. Interests of Experts and Counsel**

Not applicable.

**ITEM 8. FINANCIAL INFORMATION****A. Consolidated Statements and Other Financial Information**

Please refer to Item 18 for a list of all financial statements filed as part of this annual report on Form 20-F.

Except as described in Item 4. Information on the Company Litigation, we are not currently involved in material litigation or other proceedings that may have, or have had in recent past, significant effects on our financial position or profitability.

As for our policy on dividend distributions, see Item 10. Additional Information B. Memorandum and Articles of Association Dividends and Distributions. The following table sets forth the cash dividends per share and stock dividends per share as a percentage of shares outstanding paid during each of the years indicated in respect of shares outstanding at the end of each such year, except as otherwise noted.

	Cash Dividend per Share	Stock Dividend per Share <sup>(1)</sup>	Total Number of Shares Issued as Stock Dividend	Number of Outstanding Shares at Year End
	NT\$	NT\$		
1995	0.5	5.0	417,459,806	1,343,478,004



Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

1996	9.3	1,237,236,274	2,752,551,663
1997	3.0	868,629,276	4,117,758,265
1998	2.9	1,199,052,940	5,480,221,725
1999	1.5	834,140,790	6,638,054,462
2000	2.0	1,809,853,716	11,439,016,900
2001	1.5	1,715,104,035	13,169,235,416
2002	1.5	1,968,018,212	15,238,578,646
2003	0.4	607,925,145	15,941,901,463

(1) We declare stock dividends in a NT dollar amount per share, but we pay the dividends to our shareholders in the form of shares. The amount of shares distributed to each shareholder is calculated by multiplying the dividend declared by the number of shares held by the given shareholder, divided by the par value of NT\$10 per share. Fractional shares are not issued but are paid in cash.

**Table of Contents****B. Significant Changes**

Other than those changes disclosed in Item 4. Information on the Company A. History and Development of the Company Recent Developments, we have not experienced any significant changes since the date of the annual financial statements for the year ended December 31, 2003.

Our unconsolidated net operating revenue for the three months ended March 31, 2004 was NT\$25,326 million (US\$745 million). Our unconsolidated net operating revenue for the three months ended March 31, 2004 is not indicative of the results that may be expected for any subsequent period.

**ITEM 9. THE OFFER AND LISTING****A. Offer and Listing Details**

Not applicable.

**B. Plan of Distribution**

Not applicable.

**C. Markets****Market Price Information for Our Shares**

Our shares have been listed on the Taiwan Stock Exchange since July 1985. There is no public market outside Taiwan for our shares. The table below shows, for the periods indicated, the high and low closing prices and the average daily volume of trading activity on the Taiwan Stock Exchange for our shares. The closing price for our shares on the Taiwan Stock Exchange on May 31, 2004 was NT\$27.8 per share.

	Closing Price Per Share <sup>(1)</sup>		Average Daily Trading Volume
	High	Low	
	NT\$	NT\$	(in thousands of shares)
1999	67.85	20.49	152,181.66
2000	75.73	31.84	91,058.70
2001	43.89	19.56	76,517.51

Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

2002	47.65	19.23	79,297.64
First Quarter	45.56	34.86	99,848.13
Second Quarter	47.65	32.94	66,181.43
Third Quarter	36.37	22.79	69,066.43
Fourth Quarter	27.40	19.23	84,852.59
2003	32.20	18.46	101,305.07
First Quarter	22.88	18.46	76,123.75
Second Quarter	23.75	18.56	94,251.94
Third Quarter	31.00	22.20	156,592.83
Fourth Quarter	32.20	27.70	74,548.09
2004 (through May 31)	34.10	25.10	111,042.26
First Quarter	34.10	27.90	102,687.58
January	31.70	30.00	84,064.69
February	31.20	29.70	75,052.28
March	34.10	27.90	138,863.63
Second Quarter (through May 31)	34.00	25.10	122,311.38
April	34.00	29.30	143,524.09
May	30.20	25.10	100,088.53

Source: Bloomberg; Taiwan Stock Exchange.

**Table of Contents**

- (1) Information has been adjusted to give effect to 834,140,790 shares and 24,177,993 shares issued as stock dividend and employee bonus, respectively, in August 1999; 1,809,853,716 shares and 78,689,291 shares issued as stock dividend and employee bonus, respectively, in June 2000; 1,715,104,035 shares and 149,139,481 shares issued as stock dividend and employee bonus, respectively, in August 2001; 1,968,018,212 shares and 171,132,018 shares issued as stock dividend and employee bonus, respectively, in August 2002; 607,925,145 shares and 57,972,672 shares issued as stock dividend and employee bonus, respectively, in July 2003.

**Market Price Information for Our American Depositary Shares**

Our ADSs have been listed on the NYSE under the symbol **UMC** since September 19, 2000. The outstanding ADSs are identified by the CUSIP number 910873 20 7. The table below shows, for the periods indicated, the high and low closing prices and the average daily volume of trading activity on the NYSE for our ADSs. The closing price for our ADSs on the New York Stock Exchange on May 28, 2004 was US\$5.00 per ADS. Each of our ADSs represents the right to receive five shares.

	Closing Price per ADS <sup>(1)</sup>		Average ADS Daily Trading
	High	Low	Volume
	US\$	US\$	
2000 (from September 19)	10.81	5.41	2,222,277
2001	8.95	3.76	2,818,987
2002	9.53	2.87	3,778,300
First Quarter	8.90	6.19	3,912,671
Second Quarter	9.53	5.99	3,915,514
Third Quarter	6.56	3.39	3,861,414
Fourth Quarter	4.67	2.87	3,431,997
2003	5.65	2.85	3,919,402
First Quarter	3.70	2.85	3,161,341
Second Quarter	4.13	2.98	4,350,510
Third Quarter	5.49	3.64	4,375,715
Fourth Quarter	5.65	4.65	3,761,243
2004 (through May 28)	6.12	4.38	3,427,949
First Quarter	5.91	4.89	3,575,482
January	5.55	5.11	3,506,360
February	5.48	5.09	2,791,689
March	5.91	4.89	4,283,070
Second Quarter (through May 28)	6.12	4.38	3,204,849
April	6.12	5.17	2,939,062
May	5.38	4.38	3,483,925

Sources: *Bloomberg*

- (1) Information has been adjusted to give effect to 1,968,018,212 shares and 171,132,018 shares issued as stock dividend and employee bonus, respectively, in August 2002; 607,925,145 shares and 57,972,672 shares issued as stock dividend and employee bonus, respectively, in July 2003.

As of May 28, 2004, a total of 188,608,554 ADSs and 15,749,834,463 of our shares were outstanding, which includes shares and related ADSs in respect of a stock dividend and employee bonus shares distributed in September 2003. With certain limited exceptions, holders of shares that are not ROC persons are required to hold these shares through a brokerage or custodial account in the ROC. As of May 28, 2004, 943,042,770

shares were registered in the name of a nominee of Citibank, N.A., the depository under the deposit agreement. Citibank, N.A. has advised us that, as of May 28, 2004, 188,608,554 ADSs, representing these 943,042,770 shares, were held of record by Cede & Co. and 26 other U.S. persons. We have no further information as to shares held, or beneficially owned, by U.S. persons.

**D. Selling Shareholders**

Not applicable.

**Table of Contents**

**E. Dilution**

Not applicable.

**F. Expenses of the Issue**

Not applicable.

**ITEM 10. ADDITIONAL INFORMATION**

**A. Share Capital**

Not applicable.

**B. Memorandum and Articles of Association**

*The following statements summarize the material elements of our capital structure and the more important rights and privileges of shareholders conferred by ROC law and our articles of incorporation.*

**Objects and Purpose**

The scope of business of United Microelectronics as set forth in Article 2 of our articles of incorporation, includes (i) integrated circuits; (ii) semiconductor parts and components; (iii) parts and components of microcomputers, microprocessors, peripheral support and system products; (iv) parts and components of semiconductor memory systems products; (v) semiconductor parts and components for digital transceiver product and system products; (vi) semiconductor parts and components for telecom system and system products; (vii) testing and packaging of integrated circuits; (viii) mask production; (ix) research and development, design, production, sales, promotion and after sale services related to our business; and (x) export/import trade related to our business.

**Directors**

The ROC Company Act and our articles of incorporation provide that our board of directors is elected by shareholders and is responsible for the management of our business. As of March 31, 2004, our board of directors was composed of 12 directors. In the annual ordinary shareholders meeting held in June 2004, a proposal of reducing the director positions to nine by amending our articles of incorporation was discussed. We currently have three managing directors, who are elected by our directors. The Chairman of our board is elected by our managing directors. The Chairman presides at all meetings of our board of directors, and also has the authority to represent our company. The term of office for our directors is three years, and our directors are elected by our shareholders by means of cumulative voting. The election for all of the directors and supervisors was held in June 2004. In addition, our articles of incorporation provide that our shareholders also elect three supervisors whose

duties include, among other things, investigating our business and financial condition, inspecting our corporate records, calling our shareholders meetings under certain circumstances, representing us in negotiations with our directors and notifying, when appropriate, our board of directors to cease acting in contravention of applicable law or regulation or in contravention of our articles of incorporation. The supervisors cannot concurrently serve as our directors or officers or employees. Pursuant to the ROC Company Act, a person may serve as our director or supervisor in his or her personal capacity or as the representative of another legal entity. A legal entity that owns our shares may be elected as a director or supervisor, in which case a natural person must be designated to act as the legal entity's representative. A legal entity that is our shareholder may designate its representative to be elected as our director or supervisor on its behalf. In the event several representatives are designated by the same legal entity, any or all of them may be elected. A director or supervisor who serves as the representative of a legal entity may be removed or replaced at any time at the discretion of such legal entity, and the replacement director or supervisor may serve the remainder of the term of office of the replaced director or supervisor. Currently, four of our directors and three of our supervisors are representatives of other legal entities, as shown in Item 6. Directors, Senior Management and

## **Table of Contents**

**Employees** A. Directors and Senior Management . Our articles of incorporation provides that our directors and supervisors in the aggregate shall own no less than 5% and 0.5%, respectively, of our issued shares.

## **Shares**

As of December 31, 2003, our authorized share capital was NT\$220 billion, divided into 22 billion shares, of which 16,140,743,463 shares were issued and 15,941,901,463 shares were outstanding. All shares presently issued are fully paid and in registered form, and existing shareholders are not subject to any capital calls. As of March 31, 2004, we had no outstanding convertible bonds, warrants or options on our shares, except for 939 million, 61 million, 57 million and 33 million options we granted to our employees under our Employee Stock Options Plan as discussed below.

According to our Employee Stock Options Plan, options may be granted to our full-time regular employees, including those of our domestic and overseas subsidiaries. In September 2002 and October 2003, we obtained approval by relevant ROC authorities to grant up to 1,000 million and 150 million stock options, respectively, to acquire our common shares under our Employee Stock Option Plan. We granted 939 million, 61 million, 57 million and 33 million options to acquire our common shares under the plan in October 2002, January 2003, November 2003 and March 2004, respectively. According to the plan, an option holder may exercise an increasing portion of his or her options in time starting two years after the grant of the options. According to the vesting schedule, 50%, 75% and 100% of such option holder's options shall vest two, three and four years after the grant of the options, respectively.

## **New Shares and Preemptive Rights**

New shares may only be issued with the prior approval of our board of directors. If our issuance of any new shares will result in any change in our authorized share capital, we are required under ROC law to amend our articles of incorporation and obtain approval of our shareholders in a shareholders' meeting. We must also obtain the approval of, or submit a registration with, the ROC SFC and the Science Park Administration. According to the ROC Company Act, when a company issues capital stock for cash, 10% to 15% of the issue must be offered to its employees. In addition, if a listed company intends to offer new shares for cash, at least 10% of the issue must also be offered to the public. This percentage can be increased by a resolution passed at a shareholders' meeting, which will reduce the number of new shares in which existing shareholders may have preemptive rights. Unless the percentage of the shares offered to the public is increased by a resolution, existing shareholders of the company have a preemptive right to acquire the remaining 75% to 80% of the issue in proportion to their existing shareholdings. According to the Corporate Merger and Acquisition Act of the ROC, as effective on February 8, 2002, if new shares issued by our company are solely for the purpose of acquisition or spin-off, the above-mentioned restrictions, including the employee stock ownership plan, the preemptive rights of the existing shareholders and the publicity requirement of a listed company, to such issuance of new shares may not be applied.

## **Shareholders**

We only recognize persons registered in our register as our shareholders. We may set a record date and close our register of shareholders for specified periods to determine which shareholders are entitled to various rights pertaining to our shares.

## **Transfer of Shares**



Shares in registered form are transferred in book-entry form or by endorsement and delivery of the related share certificates. Transferees must have their names and addresses registered on our register in order to assert shareholder's rights against us. Our shareholders are required to file their respective specimen seals with our share registrar, SinoPac Securities Corp. Under current ROC Company Act, a public company, such as our company, may issue individual share certificates, one master certificate or no certificate at all to evidence common shares. Our articles of incorporation, as amended on June 9, 2003, provide that we, upon acceptance of the application from the Taiwan Securities Central Depository Co., Ltd., or TSCDC, may issue a large face value share certificate in exchange for every thousand shares in the custody of TSCDC, or issue one master certificate for all newly issued

## **Table of Contents**

shares. If our shares are issued in one master certificate, the shares will be deposited for the custody of TSCDC, and the transfer of these shares will be carried out through the book-entry system maintained by TSCDC.

### **Shareholders Meetings**

We are required to hold an annual ordinary shareholders meeting once every calendar year within six months from the end of each fiscal year. Our board of directors may convene an extraordinary meeting whenever the directors deem necessary, and they must do so if requested in writing by shareholders holding no less than 3% of our paid-in share capital who have held these shares for more than a year. In addition, any of our supervisors may convene a shareholders meeting if our board of directors does not or cannot convene a shareholders meeting and when such a meeting is necessary for the benefit of the shareholders. At least 15 days advance written notice must be given of every extraordinary shareholders meeting and at least 30 days advance written notice must be given of every annual ordinary shareholders meeting. Unless otherwise required by law or by our articles of incorporation, voting for an ordinary resolution requires an affirmative vote of a simple majority of those present. A distribution of cash dividends would be an example of an ordinary resolution. The ROC Company Act also provides that in order to approve certain major corporate actions, including any amendment of our articles of incorporation, dissolution, merger or spin-off, the transfer of all or an essential part of the business or assets, accept all of the business or assets of any other company which would have a significant impact in our operations, removing directors or the distribution of dividend in stock form, a special resolution may be adopted by the holders of at least two-thirds of our shares represented at a meeting of shareholders at which holders of at least a majority of our issued and outstanding shares are present. However, if we are the controlling company and hold no less than 90% of our subordinate company's outstanding shares, our merger with the subordinate company can be approved by a board resolution adopted by majority consent at a meeting with two-thirds of our directors present without shareholders approval. In addition, according to the Corporate Merger and Acquisition Act of the ROC, if a company intends to transfer all or an essential part of its business or assets to its wholly-owned subsidiary, subject to the qualifications set forth in the said act, such transaction only needs to be approved by majority board resolution rather than super majority vote by the shareholders meeting as required by the ROC Company Act.

### **Voting Rights**

Due to the amendment to the Company Act and the amendment made to our articles of incorporation accordingly, except for treasury shares, each common share is generally entitled to one vote and no voting discount will be applied. Except as otherwise provided by law or our articles of incorporation, a resolution can be adopted by the holders of a simple majority of the total issued and outstanding shares represented at a shareholders meeting. The quorum for a shareholders meeting to discuss the ordinary resolutions is a majority of the total issued and outstanding shares. The election of directors and supervisors by our shareholders may be conducted by means of cumulative voting or other voting mechanisms adopted in our articles of incorporation. In all other matters, a shareholder must cast all his or her votes in the same manner when voting on any of these matters.

Our shareholders may be represented at an ordinary or extraordinary shareholders meeting by proxy if a valid proxy form is delivered to us five days before the commencement of the ordinary or extraordinary shareholders meeting. Voting rights attached to our shares exercised by our shareholders proxy are subject to the proxy regulation promulgated by the ROC SFC.

Any shareholder who has a personal interest in a matter to be discussed at our shareholders meeting, the outcome of which may impair our interests, shall not vote or exercise voting rights on behalf of another shareholder on such matter.

Holders of our ADSs generally will not be able to exercise voting rights on the shares underlying their ADSs on an individual basis.

**Dividends and Distributions**

We are not allowed under ROC law to pay dividends on our treasury shares. We may distribute dividends on our issued and outstanding shares if we have earnings. Before distributing a dividend to shareholders, among other

## **Table of Contents**

things, we must recover any past losses, pay all outstanding taxes and set aside a legal reserve equivalent to 10% of our net income until our legal reserve equals our paid-in capital.

At an annual ordinary shareholders meeting, our board of directors submits to the shareholders for their approval proposals for the distribution of dividends or the making of any other distribution to shareholders from our net income or reserves for the preceding fiscal year. Dividends are paid to shareholders proportionately. Dividends may be distributed either in cash or in shares or a combination of cash and shares, as determined by the shareholders at such meeting.

Our articles of incorporation provide that we may distribute 0.1% of the balance of our earnings deducted by:

payment of all taxes and dues;

deduction of any past losses; and

allocation of 10% of our net income as a legal reserve

as remuneration to directors and supervisors.

The amount of no less than 5% of the residual amount after the distribution of the items illustrated above, plus any undistributed earnings from previous years, shall be distributed as bonus to employees in the form of new shares. Employees eligible for such distribution may include certain qualified employees from our subordinate companies and the qualification of such employees is to be determined by our board of directors. The remaining amount may be distributed according to the distribution plan proposed by our board of directors based on our dividend policy, and submitted to the shareholders meeting for approval.

Our articles of incorporation further provide that at least 50% of the dividends to our shareholders, if any, must be paid in the form of stock dividends. Accordingly, no more than 50% of the dividends can be paid in the form of cash.

In addition to permitting dividends to be paid out of net income, we are permitted under the ROC Company Act to make distributions to our shareholders of additional shares by capitalizing reserves, including the legal reserve and capital surplus of premiums from issuing stock and earnings from gifts received if we do not have losses. However, the capitalized portion payable out of our legal reserve is limited to 50% of the total accumulated legal reserve, and is payable only if and to the extent the accumulated legal reserve exceeds 50% of our paid-in capital.

For information as to ROC taxes on dividends and distributions, see E. Taxation ROC Tax Considerations.

## **Acquisition of Our Common Shares by Us**

An ROC company may not acquire its own common shares, except under certain exceptions provided in the ROC Company Act or the ROC Securities and Exchange Law. Under the new amendments to the ROC Company Act, which took effect on November 14, 2001, a company may purchase up to 5% of its issued common shares for transfer to employees in accordance with a resolution of its board of directors, passed by a majority vote, at a meeting with at least two-thirds of the directors present.

Under Article 28-2, an amendment to the Securities and Exchange Law, which took effect on July 21, 2000, we may, by a board resolution adopted by majority consent at a meeting with two-thirds of our directors present, purchase up to 10% of our issued shares on the Taiwan Stock Exchange or by a tender offer, in accordance with the procedures prescribed by the ROC SFC, for the following purposes:

to transfer shares to our employees;

## **Table of Contents**

to transfer upon conversion of bonds with warrants, preferred shares with warrants, convertible bonds, convertible preferred shares or certificates of warrants issued by us; and

if necessary, to maintain our credit and our shareholders' equity; provided that the shares so purchased shall be cancelled thereafter.

Beginning December 22, 2000, we announced several plans, none of which was binding on us, to buy back up to an aggregate of 1,551 million of our shares on the Taiwan Stock Exchange at the price range set forth in the plans. As of December 31, 2003, we purchased an aggregate of 335 million of our shares under these plans, out of these 315 common shares were repurchased for transfer to our employees as permitted by the ROC Company Act. In addition, on March 23, 2004, we announced a plan, which was not binding on us, to buy back up to 360 million of our shares on the Taiwan Stock Exchange at a price range of NT\$19.6 to NT\$47.5 per share between March 24, 2004 and May 23, 2004. As of May 23, 2004, we purchased 192 million of our shares under this plan at an average purchase price of NT\$27.07 per share.

In addition, we may not spend more than the aggregate amount of the retained earnings, the premium from issuing stock and the realized portion of the capital reserve to purchase our shares.

We may not pledge or hypothecate any purchased shares. In addition, we may not exercise any shareholders' rights attaching to such shares. In the event that we purchase our shares on the Taiwan Stock Exchange, our affiliates, directors, supervisors, managers and their respective spouses and minor children and/or nominees are prohibited from selling any of our shares during the period in which we purchase our shares.

In addition to the share purchase restriction, the Company Act provides that our subsidiaries may not acquire our shares or the shares of our majority-owned subsidiaries if the majority of the outstanding voting shares or paid-in capital of such subsidiary is directly or indirectly held by us.

## **Liquidation Rights**

In a liquidation, you will be entitled to participate in any surplus assets after payment of all debts, liquidation expenses and taxes.

## **Rights to Bring Shareholders' Suits**

Under the ROC Company Act, a shareholder may bring suit against us in the following events:

within 30 days from the date on which a shareholders' resolution is adopted, a shareholder may file a lawsuit to annul a shareholders' resolution if the procedure for convening a shareholders' meeting or the method of resolution violates any law or regulation or our articles of incorporation. However, if the court is of the opinion that such violation is not material and does not affect the result of the resolution, the court may reject the shareholder's claim.

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

if the substance of a resolution adopted at a shareholders meeting contradicts any applicable law or regulation or our articles of incorporation, a shareholder may bring a suit to determine the validity of such resolution.

Shareholders may bring suit against our directors and supervisors under the following circumstances:

Shareholders who have continuously held 3% or more of our issued shares for a period of one year or longer may request in writing that a supervisor institute an action against a director on our behalf. In case the supervisor fails to institute an action within 30 days after receiving such request, the shareholders may institute an action on our behalf. In the event shareholders institute an action, a court may, upon the defendant's motion, order such shareholders to furnish appropriate security.

## **Table of Contents**

Shareholders who hold more than 3% or more of our total issued shares may institute an action with a court to remove a director of ours who has materially violated the applicable laws or our articles of incorporation or has materially damaged the interests of our company if a resolution for removal on such grounds has first been voted on and rejected by our shareholders and such suit is filed within 30 days of such shareholders vote.

In the event that any director, supervisor, manager or shareholder holding more than 10% of our shares or any respective spouses or minor children and/or nominees of any of them sells shares within six months after acquisition of such shares, or repurchases the shares within six months after the sale, we may claim for recovery of any profits realized from the sale and purchase. If our board of directors or our supervisors fail to claim for recovery, any shareholder may set forth a 30-day period for our board of directors or our supervisors to exercise the right. In the event our directors or our supervisors fail to exercise the right during such 30-day period, such requesting shareholder shall have the right to claim such recovery on our behalf. Our directors and supervisors shall be jointly and severally liable for damages suffered by us as a result of their failure to exercise the right of claim.

## **Other Rights of Shareholders**

Under the ROC Company Act and the Corporate Merger and Acquisition Act, dissenting shareholders are entitled to appraisal rights in the event of a spin-off or a merger and various other major corporate actions. Dissenting shareholders may request us to redeem all their shares at a then fair market price to be determined by mutual agreement. If no agreement can be reached, the valuation will be determined by a court. Subject to applicable law, dissenting shareholders may, among other things, exercise their appraisal rights by notifying us before the related shareholders meeting or by raising and registering their dissent at the shareholders meeting and also waive their voting rights.

One or more shareholders who have held more than 3% of the issued and outstanding shares for more than one year may require our board of directors to call an extraordinary shareholders meeting by sending a written request to our board of directors.

## **Financial Statements**

For a period of at least 10 days before our annual ordinary shareholders meeting, we must make available our annual financial statements at our principal offices in Hsinchu, Taiwan, and our share registrar in Taipei for our shareholders inspection.

## **Transfer Restrictions**

Our directors, supervisors, managers and shareholders holding more than 10% of our shares are required to report any changes in their shareholding to us on a monthly basis. In addition, the number of shares that they can sell or transfer on the Taiwan Stock Exchange on a daily basis is limited by ROC law. Further, they may sell or transfer our shares on the Taiwan Stock Exchange only after reporting to the ROC SFC at least three days before the transfer, provided that such reporting is not required if the number of shares transferred does not exceed 10,000.

## **C. Material Contracts**

### **Lease Agreements**



For a summary of our material leases, see Item 4. Information on the Company Manufacturing.

**Merger Agreement, dated as of February 26, 2004, between United Microelectronics Corporation and SiS Microelectronics Corporation**

On February 26, 2004, we signed a merger agreement with SiS Microelectronics in connection with our proposed acquisition of SiS Microelectronics through a share swap. Under the terms of the merger agreement, we

## **Table of Contents**

will issue 357 million new shares in exchange of 100% of SiS Microelectronics shares, at the ratio of one of our shares to 2.24 SiS Microelectronics shares, valuing the acquisition at NT\$10.7 billion. The completion of the acquisition is subject to a number of conditions, including obtaining approvals from Taiwan regulatory authorities. We expect to complete the acquisition by July 2004.

### **D. Exchange Controls**

#### **Foreign Investment and Exchange Controls in Taiwan**

*We have extracted from publicly available documents the information presented in this section. Please note that citizens of the People's Republic of China and entities organized in the People's Republic of China are subject to special ROC laws, rules and regulations, which are not discussed in this section.*

#### **General**

Historically, foreign investments in the securities market of Taiwan were restricted. However, commencing in 1983, the Taiwan government has from time to time enacted legislation and adopted regulations to make foreign investment in the Taiwan securities market possible. Initially, only overseas investment trust funds of authorized securities investment trust enterprises established in Taiwan were permitted to invest in the Taiwan securities market. Since January 1, 1991, qualified foreign institutional investors are allowed to make investments in the Taiwan public securities market. Since March 1, 1996, non-resident foreign institutional and individual investors, called general foreign investors, are permitted to make direct investments in the Taiwan public securities market. On September 30, 2003, the Executive Yuan amended the Regulations Governing Investment in Securities by Overseas Chinese and Foreign Nationals under which the Qualified Foreign Institutional Investors, or QFII, designations have been abolished and the restrictions on foreign portfolio investors have been revised. According to the new rules, Foreign Institutional Investor, or FINI, means an entity which is incorporated under the laws of countries other than the ROC or the branch of a foreign entity which is established within the territory of the ROC, and Foreign Individual Investor ( FIDI ) means an overseas Chinese or a foreign natural person. In addition, the new rules also lifted some restrictions and simplified procedures of investment application.

#### **Foreign Ownership Limitations**

Foreign ownership of the issued share capital in a Taiwan Stock Exchange-listed company or a GreTai Securities Market-listed company has been limited to 50% in the past. Since December 30, 2000, the 50% limit has been lifted. Foreign investors can now hold such investments without any foreign ownership percentage limitations, unless the law has imposed restrictions otherwise.

Capital remitted into Taiwan under the foreign investment guidelines may be repatriated at any time without the approval of the ROC SFC. Capital gains and income on investments may also be repatriated at any time.

#### **Foreign Investors**

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Each FINI who wishes to invest directly in the ROC securities market is required to register with the Taiwan Stock Exchange, obtain an investment identification number and apply to the Central Bank of China, or CBC, for approval if the FINI is a non-resident and has no sub-investment accounts in the ROC. Except for some restrictions imposed by specific laws and regulations, the individual and aggregate foreign ownership of the issued share capital in a Taiwan Stock Exchange listed company or a GreTai Securities Market listed company is not restricted. An ROC custodian for non-resident FINI is required to submit to the CBC and the Taiwan Stock Exchange a report of trading activities and status of assets under custody and other matters every month.

Each FIDI who wishes to invest directly in the ROC securities market is also required to register with the Taiwan Stock Exchange and obtain an investment identification number. Any non-resident FIDI who invests in the ROC securities is subject to the limitations on investment amount as jointly determined by the ROC SFC and CBC.

## **Table of Contents**

### **Foreign Investment Approval**

Foreign investors (both institutional and individual) who wish to make direct investments in the shares of ROC companies are required to submit a foreign investment approval application to the Investment Commission of the Ministry of Economic Affairs of the ROC or other government authority and enjoy benefits granted under the Statute for Foreigner's Investment and the Statute for Overseas Chinese's Investment. The Investment Commission or other government authority reviews each foreign investment approval application and approves or disapproves the application after consultation with other governmental agencies, if necessary. Any non-ROC person possessing a foreign investment approval may repatriate annual net profits and interests attributable to an approved investment. Investment capital and capital gains attributable to the investment may be repatriated with approval of the Investment Commission or other government authority.

In addition to the general restrictions against direct investments by foreign investors in ROC companies, foreign investors are currently prohibited from investing in certain prohibited industries in Taiwan under the Negative List. The prohibition of the Negative List is absolute in the absence of a specific exemption from the application of the Negative List. The prohibition on direct foreign investment in the prohibited industries is absolute in the absence of a specific exemption from the application of the Negative List. Under the Negative List, some other industries are restricted so that foreign investors may directly invest only up to a specified level and with the specific approval of the relevant authority responsible for enforcing the legislation of which the Negative List is intended to implement. Our business is not a restricted industry under the Negative List.

### **Exchange Controls**

Taiwan's Foreign Exchange Control Statute and regulations provide that all foreign exchange transactions must be executed by banks designed to handle foreign exchange transactions by the Ministry of Finance and by the Central Bank of China. Current regulations favor trade-related foreign exchange transactions. Consequently, foreign currency earned from exports of merchandise and service may now be retained and used freely by exporters. All foreign currency needed for the importation of merchandise and services may be purchased from the designated foreign exchange banks.

Aside from trade-related foreign exchange transactions, ROC companies and residents may remit to and from Taiwan foreign currencies of up to US\$50 million (or its equivalent) and US\$5 million, (or its equivalent) respectively in each calendar year. These limits apply to remittance involving a conversion between NT dollars and U.S. dollars or other foreign currencies. A requirement is also imposed on all private enterprises to register all medium and long-term foreign debt with the CBC.

In addition, foreign currency earned from or needed to be paid for direct investment or portfolio investments, which are approved by the competent authorities, may be retained or sold by the investors or purchased freely from the designated bank.

Aside from the transactions discussed above, a foreign person without an alien resident card or an unrecognized foreign entity may remit to and from Taiwan foreign currencies of up to US\$100,000 per remittance without obtaining prior approval or permit if required documentation is provided to Taiwan authorities. This limit applies only to remittance involving a conversion between NT dollars and U.S. dollars or other foreign currencies.

### **Depositary Receipts**

In April 1992, the ROC SFC began allowing ROC companies listed on the Taiwan Stock Exchange to sponsor the issuance and sale of depositary receipts evidencing depositary shares. Approvals for these issuances are still required. In December 1994, the Ministry of Finance began allowing companies whose shares are traded on the GreTai Securities Market to sponsor the issuance and sale of depositary receipts evidencing depositary shares. On October 24, 2002, the ROC SFC began allowing public companies that are not listed on the Taiwan Stock Exchange or the GreTai Securities Market to sponsor the issuance and sale of depositary receipts by way of private placements outside the ROC.

## **Table of Contents**

A holder of depositary shares wishing to withdraw common shares underlying depositary shares is required to appoint a local agent or representative with qualifications set forth by the ROC SFC to open a securities trading account with a local brokerage firm, pay ROC taxes, remit funds, and exercise shareholders' right. In addition, the withdrawing holder is also required to appoint a custodian bank with qualification set forth by the Ministry of Finance to hold the securities in safekeeping, make confirmations, settle trades and report all relevant information. Without making this appointment and the opening of accounts, the withdrawing holder would be unable to subsequently sell the common shares withdrawn from a depositary receipt facility on both the Taiwan Stock Exchange and the GreTai Securities Market.

After the issuance of a depositary share, a holder of the depositary share may immediately, comparing to a three-month waiting period restriction which was lifted in 2003, request the depositary issuing the depositary share to cause the underlying common shares to be sold in the ROC or to withdraw the common shares represented by the depositary receipt and deliver the common shares to the holder. A citizen of the People's Republic of China is not permitted to withdraw and hold our common shares.

No deposits of shares may be made in a depositary receipt facility and no depositary receipts may be issued against deposits without specific ROC SFC approval, unless they are:

- (1) stock dividends;
- (2) free distributions of common shares;
- (3) due to the exercise by a holder of his or her preemptive rights in the event of capital increases for cash; or
- (4) if permitted under the deposit agreement and the custody agreement, due to the direct purchase of shares or purchase through the depositary in the domestic market or the surrender of shares withdrawn by and under the possession of investors and then delivery of such shares to the custodian for deposit in the depositary receipt facility, provided that the total number of depositary receipts outstanding after an issuance cannot exceed the number of issued depositary shares previously approved by the ROC SFC in connection with the offering plus any depositary shares issued pursuant to the events described in (1), (2) and (3) above. These issuances may only be made to the extent previously issued depositary shares have been cancelled.

A depositary may convert New Taiwan dollars from the proceeds of the sale of common shares or cash distributions received into other currencies, including U.S. dollars. A depositary must obtain foreign exchange approval from the Central Bank of China on a payment-by-payment basis for conversion into New Taiwan dollars of subscription payments for rights offerings or conversion into foreign currencies from the proceeds of the sale of subscription rights for new common shares. It is expected that the Central Bank of China will grant this approval as a routine matter.

A holder of depositary shares may convert NT dollars into other currencies from proceeds from the sale of any underlying common shares. Proceeds from the sale of the underlying common shares withdrawn from the depositary receipt facility may be used for reinvestment in securities listed on both the Taiwan Stock Exchange and the GreTai Securities Market Exchange, provided that the investor designates a local securities firm or financial institution as agent to open an NT dollar bank account in advance.

## **E. Taxation**

**ROC Tax Considerations**

The following summarizes the principal ROC tax consequences of owning and disposing of the ADSs and shares to a holder of ADSs or shares that is not a resident of the ROC. An individual holder will be considered as not a resident of the ROC for the purposes of this section if he or she is not physically present in Taiwan for 183 days or more during any calendar year, except if the individual holder has both ROC and non-ROC nationalities and has a registered address in the ROC. An entity holder will be considered as not a resident of the ROC if it is organized

## **Table of Contents**

under the laws of a jurisdiction other than Taiwan and has no fixed place of business or other permanent establishment in the ROC. Prospective purchasers of ADSs should consult their own tax advisors concerning the tax consequences of owning ADSs or shares in the ROC and any other relevant taxing jurisdiction to which they are subject.

### ***Dividends***

Dividends, whether in cash or shares, declared by us out of retained earnings and paid out to a holder that is not an ROC resident in respect of shares represented by ADSs are subject to ROC withholding tax at the time of distribution. The current rate of withholding for non-residents is 30% for a non-resident individual and 25% for a non-resident entity of the amount of the distribution in the case of cash dividends or of the par value of the shares distributed in the case of stock dividends. However, the rate of withholding is 20% if the non-resident holder obtains foreign investment approval pursuant to Statute for Foreigner's Investment or Statute for Overseas Chinese's Investment. Under current practice adopted by tax authorities, a 20% withholding rate is applied to a non-resident ADS holder without requiring the holder to apply for or obtain foreign investment approval. As discussed in the section "Tax Reform" below, certain of our retained earnings will be subject to a 10% undistributed retained earnings tax. To the extent dividends are paid out of retained earnings which have been subject to the retained earnings tax, the amount of such tax will be used by us to offset a non-resident's withholding tax liability on such dividend. Consequently, the effective rate of withholding on dividends paid out of retained earnings previously subject to the retained earnings tax may be less than 20%. There is no withholding tax with respect to stock dividends declared out of our capital reserve.

### ***Capital Gains***

Under current ROC law, gains realized on ROC securities transactions are exempt from income tax. In addition, transfers of ADSs by non-resident holders are not regarded as sales of ROC securities and, as a result, any gains derived therefrom are currently not subject to ROC income tax.

### ***Securities Transaction Tax***

The ROC government imposes a securities transaction tax that will apply to sales of shares, but not to sales of ADSs. The transaction tax, which is payable by the seller, is generally levied on sales of shares at the rate of 0.3% of the sales proceeds. Withdrawals of our shares from our depositary facility are not subject to ROC security transaction tax.

### ***Preemptive Rights***

Distribution of statutory preemptive rights for shares in compliance with the ROC Company Act is not subject to ROC tax. Proceeds derived from sales of statutory preemptive rights evidenced by securities by a non-resident holder may be subject to the ROC securities transaction tax, currently at the rate of 0.3% of the gross amount received. Proceeds derived from sales of statutory preemptive rights which are not evidenced by securities are subject to capital gains tax at the rate of (1) 25% of the gains realized for non-ROC entity holders and (2) 35% of the gains realized for non-ROC individual holders. Subject to compliance with the ROC law, we have the sole discretion to determine whether statutory preemptive rights are evidenced by securities or not.



*Estate Taxation and Gift Tax*

ROC estate tax is payable on any property within the ROC of a deceased individual who is a non-resident individual and ROC gift tax is payable on any property located within the ROC donated by any such person. Estate tax is currently payable at rates ranging from 2% of the first NT\$600,000 to 50% of amounts over NT\$100,000,000. Gift tax is payable at rates ranging from 4% of the first NT\$600,000 to 50% of amounts over NT\$45,000,000. Under ROC estate and gift tax laws, the shares will be deemed located in the ROC irrespective of the location of the owner. It is unclear whether a holder of ADSs will be considered to own shares for this purpose.

## **Table of Contents**

### ***Tax Treaties***

At present, Taiwan has income tax treaties with Indonesia, Singapore, Australia, New Zealand, Gambia, Swaziland, Malaysia, Vietnam, Macedonia, the Netherlands, South Africa and the United Kingdom. It is unclear whether a non-ROC holder will be considered to own shares for the purposes of such treaties. Accordingly, a holder of ADSs who is otherwise entitled to the benefit of a treaty should consult its own tax advisors concerning eligibility for benefits under the treaty with respect to the ADSs.

### ***Tax Reform***

In order to increase Taiwan's competitiveness, an amendment to the ROC Income Tax law was enacted on January 1, 1998, to integrate the corporate income tax and the shareholder dividend tax with the aim of eliminating the double taxation effect for resident shareholders of Taiwanese corporations.

Under this amendment, a 10% retained earnings tax will be imposed on a company for its after-tax earnings generated after January 1, 1998 which are not distributed in the following year. The retained earnings tax so paid will further reduce the retained earnings available for future distribution. When the company declares dividends out of those retained earnings, up to a maximum amount of 10% of the declared dividends will be credited against the 20% withholding tax imposed on the non-resident holders of its shares.

### **U.S. Federal Income Tax Considerations For U.S. Persons**

The following is a summary of the material U.S. federal income tax consequences for beneficial owners of our shares or ADSs that purchase such shares or ADSs in connection with this offering, that hold the shares or ADSs as capital assets, and that are U.S. holders that are not citizens of the ROC, do not have a permanent establishment in the ROC and are not physically present in the ROC for 183 days or more within a calendar year. You are a U.S. holder if you are:

a citizen or resident of the United States;

a corporation or partnership created or organized in or under the laws of the United States or any political subdivision thereof;

an estate the income of which is subject to U.S. federal income taxation regardless of its source;

a trust that is subject to the primary supervision of a court within the United States and one or more U.S. persons have authority to control all substantial decisions of the trust; or

a trust that has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

This summary is based on current law, which is subject to change, perhaps retroactively. It is for general purposes only and you should not consider it to be tax advice. In addition, it is based in part on representations by the depositary and assumes that each obligation under the deposit agreement and any related agreement will be performed in accordance with its terms. This summary does not represent a detailed description of all the U.S. federal income tax consequences to you in light of your particular circumstances. In addition, it does not represent a detailed description of the U.S. federal income tax consequences applicable to you if you are subject to special treatment under the U.S. federal income tax laws including if you are:

a dealer in securities or currencies;

a trader in securities if you elect to use a mark-to-market method of accounting for your securities holdings;

a financial institution or an insurance company;

**Table of Contents**

a tax-exempt organization;

a regulated investment company;

a real estate investment trust;

a person liable for alternative minimum tax;

a person holding shares as part of a hedging, integrated or conversion transaction, constructive sale or straddle;

a person owning, actually or constructively, 10% or more of our voting stock; or

a U.S. holder whose functional currency is not the United States dollar.

We cannot assure you that a later change in law will not alter significantly the tax considerations that we describe in this summary.

If a partnership holds our shares or ADSs, the tax treatment of a partner will generally depend upon the status of the partner and the activities of the partnership. If you are a partner of a partnership holding our shares or ADSs, you should consult your tax advisor.

You should consult your own tax advisor concerning the particular U.S. federal income tax consequences to you of the ownership and disposition of the shares or ADSs, as well as the consequences to you arising under the laws of any other taxing jurisdiction.

In general, for U.S. federal income tax purposes, a U.S. person who is the beneficial owner of an ADS will be treated as the owner of the shares underlying its ADS. However, the U.S. Treasury has expressed concerns that parties involved in transactions in which depositary shares are pre-released may be taking actions that are inconsistent with the claiming of foreign tax credits by the holders of ADSs. Accordingly, the analysis of the creditability of ROC taxes described below could be affected by future actions that may be taken by the U.S. Treasury. Deposits or withdrawals of shares by U.S. holders for ADSs generally will not be subject to U.S. federal income tax.

***Taxation of Dividends***

Except as discussed below with respect to the passive foreign investment company rules, the amount of distributions (including net amounts withheld in respect of ROC withholding taxes) you receive on your shares or ADSs (other than certain pro rata distributions of shares to all shareholders) will generally be treated as dividend income to you if the distributions are made from our current and accumulated earnings and profits as calculated according to U.S. federal income tax principles. In determining the net amounts withheld in respect of ROC taxes, any reduction in the amount withheld on account of an ROC credit in respect of the 10% retained earnings tax imposed on us is not considered a withholding tax and will not be treated as distributed to you or creditable by you against your U.S. federal income tax. Such income will be includible in your gross income as ordinary income on the day you actually or constructively receive it, which in the case of an ADS will be the date actually or constructively received by the depositary. The amount of any distribution of property other than cash will be the fair market value of such property on the date it is distributed. You will not be entitled to claim a dividend received deduction with respect to distributions

you receive from us.

With respect to U.S. holders who are individuals, certain dividends received from a foreign corporation before January 1, 2009, on shares (or ADSs backed by such shares) that are readily tradable on an established securities market in the United States may be subject to reduced rates of taxation. We believe that our ADSs, which are listed on the NYSE, are readily tradable on an established securities market in the United States. There can be no assurance that our ADSs will continue to be readily tradable on an established securities market in later years (or that our shares will be readily tradable on an established securities market in any given year). Individuals that do not

## **Table of Contents**

meet a minimum holding period requirement during which they are not protected from the risk of loss or that elect to treat the dividend income as investment income pursuant to section 163(d)(4) of the Internal Revenue Code will not be eligible for the reduced rates of taxation regardless of the trading status of our shares or ADSs. Holders should consult their own tax advisors regarding the application of these rules given their particular circumstances.

The amount of any dividend paid in NT dollars will equal the U.S. dollar value of the NT dollars you receive, calculated by reference to the exchange rate in effect on the date you actually or constructively receive the dividend, which in the case of an ADS will be the date actually or constructively received by the depository, regardless of whether the NT dollars are actually converted into U.S. dollars. If the NT dollars received as a dividend are not converted into U.S. dollars on the date of receipt, you will have a basis in the NT dollars equal to their U.S. dollar value on the date of receipt. Any gain or loss you realize if you subsequently sell or otherwise dispose of the NT dollars will be ordinary income or loss from sources within the United States for foreign tax credit limitation purposes.

Subject to certain limitations under the Internal Revenue Code, you may be entitled to a credit or deduction against your U.S. federal income taxes for the net amount of any ROC taxes that are withheld from dividend distributions made to you. The election to receive a credit or deduction must be made annually, and applies to all foreign taxes for the applicable tax year. The limitation on foreign taxes eligible for credit is calculated separately with respect to specific classes of income. For this purpose, dividends we pay with respect to shares or ADS will generally be considered passive income or, for certain holders, financial services income. You may be subject to special rules if your foreign source income during the taxable year consists entirely of qualified passive income and if you have US\$300 or less, or US\$600 or less if you file a joint return, of creditable foreign taxes which you have paid or accrued during the taxable year. Furthermore, you will not be allowed a foreign tax credit for foreign taxes imposed on dividends paid on shares or ADSs if you (1) have held shares or ADSs for less than a specified minimum period during which you are not protected from risk of loss, (2) are obligated to make payments related to the dividends or (3) hold the shares or ADSs in arrangements in which your expected economic profit, after non-U.S. taxes, is insubstantial compared to the foreign tax credit generated. The rules governing the foreign tax credit are complex. We therefore urge you to consult your tax advisor regarding the availability of the foreign tax credit under your particular circumstances.

To the extent that the amount of any distribution you receive exceeds our current and accumulated earnings and profits for a taxable year, the distribution will first be treated as a tax-free return of capital, causing a reduction in your adjusted basis in the shares or ADSs and thereby increasing the amount of gain, or decreasing the amount of loss, you will recognize on a subsequent disposition of the shares or ADSs. The balance in excess of adjusted basis, if any, will be taxable to you as capital gain recognized on a sale or exchange.

It is possible that pro rata distributions of shares to all shareholders may be made in a manner that is not subject to U.S. federal income tax. In the event that such distributions are tax-free, the basis of any new shares so received will be determined by allocating the U.S. holder's basis in the old shares between the old shares and the new shares, based on their relative fair market values on the date of distribution. For U.S. tax purposes, any such tax-free share distribution and any distributions in excess of current and accumulated earnings and profits and distributions of shares generally would not result in foreign source income to you. Consequently, you may not be able to use the foreign tax credit associated with any ROC withholding tax imposed on such distributions unless you can use the credit against U.S. tax due on other foreign source income in the appropriate category for foreign tax credit purposes. You should consult your own tax advisors regarding all aspects of the foreign tax credit.

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

Except as discussed below with respect to the passive foreign investment company rules, when you sell or otherwise dispose of your shares or ADSs, you will recognize capital gain or loss in an amount equal to the difference between the U.S. dollar value of the amount realized for the shares or ADSs and your basis in the shares or ADSs, determined in U.S. dollars. If you are an individual, and the shares or ADSs being sold or

otherwise disposed of are capital assets that you have held for more than one year, your gain recognized will be taxed at a maximum rate of 15%. Your ability to deduct capital losses is subject to limitations. Any gain or loss you recognize will generally be treated as U.S. source gain or loss.

## **Table of Contents**

If you pay any ROC securities transaction tax, such tax is not treated as an income tax for U.S. federal income tax purposes, and therefore will not be a creditable foreign tax for U.S. federal income tax purposes. However, subject to limitations under the Internal Revenue Code, such tax may be deductible. You are urged to consult your tax advisors regarding the U.S. federal income tax consequences of these taxes.

### ***Passive Foreign Investment Company***

Based on the projected composition of our income and valuation of our assets, including goodwill, we do not expect to be a passive foreign investment company for 2003 and do not expect to become one in the future, although there can be no assurance in this regard.

In general, a company is considered a passive foreign investment company for any taxable year if either:

at least 75% of its gross income is passive income, which is income derived from certain dividends, interest, royalties, rents, annuities or property transactions; or

at least 50% of the value of its assets is attributable to assets that produce or are held for the production of passive income.

The 50% of value test is based on the average of the value of our assets for each quarter during the taxable year. If we own at least 25% by value of another company's stock, we will be treated, for purposes of the passive foreign investment company rules, as owning our proportionate share of the assets and receiving our proportionate share of the income of that company.

In determining that we do not expect to be a passive foreign investment company, we are relying on our projected capital expenditure plans and projected revenues for the current year and for future years. In addition, our determination is based on a current valuation of our assets, including goodwill. In calculating goodwill, we have valued our total assets based on our total market value, which is based on the market value of our shares and is subject to change. In addition, we have made a number of assumptions regarding the allocation of goodwill to active and passive assets. We believe our valuation approach is reasonable. However, it is possible that the Internal Revenue Service will challenge the valuation or allocation of our goodwill, which may also result in us being classified as a passive foreign investment company.

In addition, the determination of whether we are a passive foreign investment company is made annually. Accordingly, it is possible that we may become a passive foreign investment company in the current or any future taxable year due to changes in our asset or income composition. Because we have valued our goodwill based on the market value of our shares, a decrease in the price of our shares may result in our becoming a passive foreign investment company.

If we are a passive foreign investment company for any taxable year during which you hold shares or ADSs, you will be subject to special tax rules with respect to any excess distribution that you receive and any gain you realize from a sale or other disposition (including a pledge) of shares or ADSs. Distributions you receive in a taxable year that are greater than 125% of the average annual distributions you received during the shorter of the three preceding taxable years or your holding period for shares or ADSs will be treated as excess distributions. Under these special tax rules:



## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

the excess distribution or gain will be allocated ratably over your holding period for shares or ADSs;

the amount allocated to the current taxable year, and any taxable year prior to the first taxable year in which we were a passive foreign investment company, will be treated as ordinary income; and

the amount allocated to each other year will be subject to tax at the highest tax rate in effect for that year and the interest charge generally applicable to underpayments of tax will be imposed on the resulting tax attributable to each such year.

## **Table of Contents**

If you hold shares or ADSs in any year in which we are a passive foreign investment company, you are required to file Internal Revenue Service Form 8621.

In certain circumstances, a U.S. holder, in lieu of being subject to the passive foreign investment company rules discussed above, may make an election to include gain on the stock of a passive foreign investment company as ordinary income under a mark-to-market method provided that such stock is regularly traded on a qualified exchange. Under this method, any difference between the stock's fair market value and its adjusted basis at the end of the year is accounted for by either an inclusion in income or a deduction from income. Under current law, the mark-to-market election may be available to you because the ADSs will be listed on the NYSE, which constitutes a qualified exchange as designated in the Internal Revenue Code, although there can be no assurance that the ADSs will be regularly traded. You should also note that it is intended that only the ADSs and not the shares will be listed on the NYSE. Our shares are listed on the Taiwan Stock Exchange, which must meet certain trading, listing, financial disclosure and other requirements to be treated as a qualified exchange under applicable U.S. Treasury regulations for purposes of the mark-to-market election, and no assurance can be given that the shares will be regularly traded for purposes of the mark-to-market election.

If you make an effective mark-to-market election, you will include in income each year as ordinary income the excess of the fair market value of your passive foreign investment company shares or ADSs at the end of the year over your adjusted tax basis in the shares. You will be entitled to deduct as an ordinary loss each year the excess of your adjusted tax basis in the shares or ADSs over their fair market value at the end of the year, but only to the extent of the net amount previously included in income as a result of the mark-to-market election.

Your adjusted tax basis in passive foreign investment company shares or ADSs will be increased by the amount of any income inclusion and decreased by the amount of any deductions under the mark-to-market rules. If you make a mark-to-market election it will be effective for the taxable year for which the election is made and all subsequent taxable years unless the shares or ADSs cease to be passive foreign investment company stock that is regularly traded on a qualified exchange or the Internal Revenue Service consents to the revocation of the election. You should consult your tax advisor about the availability of the mark-to-market election, and whether making the election would be advisable in your particular circumstances.

Alternatively, a U.S. holder of shares or ADSs in a passive foreign investment company can sometimes avoid the rules described above by electing to treat the company as a qualified electing fund under section 1295 of the Internal Revenue Code. This option is not available to you because we do not intend to comply with the requirements necessary to permit you to make this election.

U.S. holders who are individuals will not be eligible for reduced rates of taxation on any dividends received from us prior to January 1, 2009, if we are a passive foreign investment company in the taxable year in which such dividends are paid or in the preceding taxable year. You should consult your own tax advisors concerning the U.S. federal income tax consequences of holding shares or ADSs if we are considered a passive foreign investment company in any taxable year.

## ***Information Reporting and Backup Withholding***

In general, unless you are an exempt recipient such as a corporation, information reporting will apply to dividends in respect of the shares or ADSs and to the proceeds from the sale of your shares or ADSs paid within the United States (and in some cases, outside of the United States). Additionally, if you fail to provide your taxpayer identification number, or fail either to report in full dividend and interest income or to make the necessary certifications, you will be subject to backup withholding.

Any amounts withheld under the backup withholding rules will be allowed as a refund or a credit against your U.S. federal income tax liability, provided you furnish the required information to the Internal Revenue Service.

## **Table of Contents**

### ***Inheritance and Gift Tax***

The ROC imposes an estate tax on a decedent who owns shares, and possibly ADSs, even if the decedent was not a citizen or resident of the ROC. See ROC Tax Considerations. The amount of any inheritance tax paid to the ROC may be eligible for credit against the amount of U.S. federal estate tax imposed on your estate. You should consult your personal tax advisors to determine whether and to what extent you may be entitled to such credit.

Under present law, a comparable U.S. tax credit for foreign gift taxes (such as those imposed by the ROC) is not available.

### **F. Dividends and Paying Agents**

Not applicable.

### **G. Statement by Experts**

Not applicable.

### **H. Documents on Display**

We have filed this annual report on Form 20-F, including exhibits, with the SEC. As allowed by the SEC, in Item 19 of this annual report, we incorporate by reference certain information we filed with the SEC. This means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be part of this annual report.

You may read and copy this annual report, including the exhibits incorporated by reference in this annual report, at the SEC's Public Reference Room at 450 Fifth Street, N.W., Washington, D.C. 20549 and at the SEC's regional offices in New York, New York, and Chicago, Illinois. You can also request copies of this annual report, including the exhibits incorporated by reference in this annual report, upon payment of a duplicating fee, by writing information on the operation of the SEC's Public Reference Room.

The SEC also maintains a website at [www.sec.gov](http://www.sec.gov) that contains reports, proxy statements and other information regarding registrants that file electronically with the SEC. Our annual report and some of the other information submitted by us to the SEC may be accessed through this website.

### **I. Subsidiary Information**

Not applicable.

**ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

Market risk is the risk of loss related to adverse changes in market prices, including interest rates and foreign exchange rates, of financial instruments. We are exposed to various types of market risks, including changes in interest rates and foreign currency exchange rates, in the normal course of business.

We use financial instruments, including variable rate debt and swap, cap and forward contracts, to manage risks associated with our interest rate and foreign currency exposures through a controlled program of risk management in accordance with established policies. These policies are reviewed and approved by our board of directors. Our treasury operations are subject to internal audit on a regular basis. We do not hold or issue derivative financial instruments for trading purposes.

Since export sales are primarily conducted in U.S. dollars, we had U.S. dollar-denominated accounts receivables of US\$602 million as of December 31, 2003. As of the same date, we also had Japanese Yen-denominated accounts receivable of ¥12,658 million attributable to our Japanese operations. We had U.S. dollar- and Japanese Yen-denominated accounts payables of US\$294 million and ¥14,498 million.

**Table of Contents**

As of December 31, 2003, we had U.S. dollar-, Japanese Yen-, NT dollar-, Singapore dollar- and Euro-denominated savings accounts of US\$33 million, ¥3,285 million, NT\$186 million, S\$2 million and 1 million, respectively. We also had time deposit denominated in U.S. dollars, Japanese Yen, NT dollars, Singapore dollars and Euros of US\$603 million, ¥34,840 million, NT\$73,679 million, S\$3 million and 8.6 million, respectively.

Our primary market risk exposures relate to interest rate movements on borrowings and exchange rate movements on foreign currency denominated capital expenditures relating to equipment used in manufacturing processes (including photo etching and chemical vapor deposition) and purchased primarily from Japan and the United States. The fair value of forward exchange contracts and interest rate swap, and cap agreements has been determined by obtaining the estimated amount from our bankers that would be received/(paid) to terminate the contracts.

**Interest Rate Risk**

Our major market risk exposure is changing interest rates. Our exposure to market risk for changes in interest rates relates primarily to our long-term debt obligations. We primarily enter into debt obligations to support general corporate purposes including capital expenditures and working capital needs. We use interest rate swaps and caps from time to time to modify our exposure to interest rate movements and reduce borrowing costs. Interest rate swaps and caps limit the risks of fluctuating interest rates by allowing us to convert a portion of the interest on our borrowings from a variable rate to a fixed rate.

The table below provides information as of December 31, 2003 about our financial instruments that are sensitive to changes in interest rates, including debt obligations and certain assets. For debt obligations, the table presents principal cash flows and related weighted average interest rates by expected maturity dates. The information is presented in the currencies in which the instruments are denominated.

	Expected Maturity Dates					Total	Fair Value
	2004	2005	2006	2007	2008 and thereafter		
	(in millions, except percentages)						
<b>Time Deposit:</b>							
Fixed rate (US\$)	603					603	603
Average interest rate	1.065-1.07%					1.065-1.07%	1.065-1.07%
Fixed rate (¥)	34,840					34,840	34,840
Average interest rate	0.04-0.06%					0.04-0.06%	0.04-0.06%
Fixed rate (S\$)	3					3	3
Average interest rate	0.5%					0.5%	0.5%
Fixed rate (NT\$)	73,679					73,679	73,679
Average interest rate	1.1-0.625%					1.1-0.625%	1.1-0.625%
Fixed rate (€)	8.6					8.6	8.6
	2.00-2.06%					2.00-2.06%	2.00-2.06%

<b>Average interest rate</b>							
<b>Unsecured short-term loans:</b>							
Variable rate (US\$)	55						
Average interest rate	1.44%~ 1.67964%					1.44%~ 1.67964%	1.44%~ 1.67964%
<b>Bonds:</b>							
Unsecured (NT\$)	7,250	2,250	10,250	2,250	18,000	40,000	40,000
Fixed rate	3.3912-5.2850%	5.1195-5.2850%	3.3912-5.2850%	5.2170-5.285%	1.48-5.285%	1.48-5.285%	1.48-5.285%
<b>Unsecured convertible</b>							
Variable rate (US\$)	240,710			235,000	200,170	675,880	675,880
Fixed rate	1.675%			0%	0%	0-1.675%	0-1.675%
<b>Unsecured (¥)</b>							
Variable rate		9,350			21,500	30,850	30,850
Fixed rate		0%			0%	0%	0%
<b>Secured (NT\$)</b>							
Variable rate	1,140	570				1,710	1,710
Fixed rate	5.60%	5.60%				5.60%	5.60%
<b>Secured long-term loans:</b>							
Variable rate (US\$)	21	12.71	5.71	5.71	2.87	48	48
Average interest rate <sup>(1)</sup>	1.86%	1.86-2.2622%	2.2622%	2.2622%	2.2622%	1.86-2.2622%	1.86-2.2622%
<b>Unsecured long-term loans:</b>							
Variable rate (¥) <sup>(2)</sup>	1,109					1,109	1,109
Average interest rate	2.1 2.53%					2.1-2.53%	2.1-2.53%
<b>Unsecured long-term loans:</b>							
Variable rate (¥) <sup>(2)</sup>	11,250					11,250	11,250
Average interest rate	0.9555%					0.9555%	0.9555%

<sup>(1)</sup> Six month LIBOR settled semi-annually (1.22% as of December 31, 2003)

<sup>(2)</sup> Three month TIBOR settled quarterly (0.08% as of December 31, 2003)

**Table of Contents**

***Foreign Currency Risk***

Although the majority of our transactions are in NT dollars, some transactions are based in other currencies. The primary currencies to which we are exposed are the U.S. dollar and the Japanese Yen. We have in the past and may in the future enter into short-term, forward exchange contracts to hedge the impact of foreign currency fluctuations on certain underlying assets, liabilities, and firm commitments for operating expenses and capital expenditures denominated in U.S. dollars. The purpose of entering into these hedges is to minimize the impact of foreign currency fluctuations on the results of operations. Gains and losses on foreign currency contracts and foreign currency denominated liabilities are recorded in the period of the exchange rate changes. The contracts have maturity dates that do not exceed three months.

As of December 31, 2003, United Microelectronics had no outstanding foreign currency forward contracts.

**ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES**

Not applicable.

**PART II**

**ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES**

None of these events occurred in any of fiscal 2001, 2002 and 2003.

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

Not applicable.

**ITEM 15. CONTROLS AND PROCEDURES**

As of the end of the period covered by this annual report, an evaluation has been carried out under the supervision and with the participation of our management, including our chief executive officer and our chief financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as such term is defined under Rules 13a-14(c) and 15d-14(c) promulgated under the Securities Exchange Act of 1934, as amended (the Exchange Act ). Based on that evaluation, our chief executive officer and chief financial officer have concluded that our disclosure controls and procedures are effective in ensuring that material information required to be disclosed in this annual report is recorded, processed, summarized and reported to them for assessment, and required disclosure is made within the time period specified in the rules and forms of the Securities and Exchange Commission. In addition, we have established a Disclosure Committee in early 2003 to assist us in fulfilling our responsibility for oversight of the accuracy and timeliness of our periodic reports filed with the Securities and Exchange Commission.



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

**ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT**

Our board of directors has determined that our company does not have an audit committee financial expert serving on our audit committee. We are in the process of discussing with potential candidates for the audit committee position who will be qualified as a financial expert pursuant to the instruction to paragraph (a) of Item 16A of Form 20-F. We have not been able to conclude our discussions as of the date of this annual report.

**Table of Contents****ITEM 16B. CODE OF ETHICS**

We have adopted a code of ethics which applies to our employees and officers, including our Chief Executive Officer and Chief Financial Officers. No changes have been made to the code of ethics since its adoption and no waivers have been granted therefrom to our employees or officers. We have filed this code of ethics as an exhibit to this annual report and a copy is available to any shareholder upon request.

**ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES**

The following table sets forth the aggregate fees by categories specified below in connection with certain professional services rendered by Diwan, Ernst & Young, our principal external auditors, for the years indicated.

	<b>For the year ended December 31,</b>		
	<b>2002</b>	<b>2003</b>	
	<b>NT\$</b>	<b>NT\$</b>	<b>US\$</b>
	<b>(in thousands)</b>		
Audit Fees <sup>(1)</sup>	33,042	30,311	892
Audit-related Fees <sup>(2)</sup>	3,155	2,480	73
Tax Fees <sup>(3)</sup>	8,176	4,117	121
All Other Fees <sup>(4)</sup>	865	233	7
<b>Total</b>	<b>45,238</b>	<b>37,141</b>	<b>1,093</b>

- (1) Audit fees consist of fees associated with the annual audit, the reviews of our quarterly financial statements and statutory audits required internationally. They also include fees billed for those services that are normally provided by the independent accountants in connection with statutory and regulatory filings.
- (2) Audit-related fees consist of fees billed for assurance and related services that are reasonably related to the performance of the audit or review of our financial statements but not described in footnote (1) above. These services include consultations concerning financial accounting and reporting standards and review of capitalization of retained earnings, financial covenants in loan agreements, treasury share buy-back programs and our affiliates' financial information.
- (3) Tax fees include fees billed for professional services rendered by Diwan, Ernst & Young, primarily in connection with our tax compliance activities.
- (4) All other fees comprise fees for all other services provided by Diwan, Ernst & Young, other than those services covered in footnotes (1) to (3) above. The fees for services in 2002, which primarily included training services, pension review and certain consulting services, were incurred prior to the enactment of the Sarbanes-Oxley Act in 2002.

Prior to forming an audit committee, our board of directors is responsible for the oversight of our independent accountants' work. The policy of our board of directors is to pre-approve all audit and non-audit services provided by Diwan, Ernst & Young, including audit services, audit-related services, tax services and other services, as described above.



---

**Table of Contents**

**PART III**

**ITEM 17. FINANCIAL STATEMENTS**

The Registrant has elected to provide the financial statements and related information specified in Item 18 in lieu of Item 17.

**ITEM 18. FINANCIAL STATEMENTS**

*The following is a list of the audited financial statements and reports of independent accountants included in this annual report beginning on page F-1.*

**INDEX TO THE FINANCIAL STATEMENTS**

	<b>Page</b>
Consolidated Financial Statements of United Microelectronics Corporation and Subsidiaries	
<u>Reports of Independent Auditors</u>	F-2
<u>Consolidated Balance Sheets at December 31, 2002 and 2003</u>	F-3
<u>Consolidated Statements of Operations for each of the three years in the period ended December 31, 2001, 2002 and 2003</u>	F-4
<u>Consolidated Statements of Changes in Stockholders' Equity for each of the three years in the period ended December 31, 2001, 2002 and 2003</u>	F-5
<u>Consolidated Statements of Cash Flows for each of the three years in the period ended December 31, 2001, 2002 and 2003</u>	F-8
<u>Notes to the Consolidated Financial Statements</u>	F-10

**Table of Contents****ITEM 19. EXHIBITS****Exhibit**

<b>Number</b>	<b>Description of Exhibits</b>
*1.1	Articles of Incorporation of the Company as last amended on June 1, 2004 (English Translation)
2.1	Form of Deposit Agreement among the Company, and Holders and Beneficial Owners of American Depositary Shares issued thereunder, including the form of American Depositary Shares (1)
4.1	Lease Agreement with Science Park Administration in relation to government-owned land located at Hsinchu Science Park, Ko-Kuan Section, No. 20-22, Hsinchu, Taiwan, ROC, the site of Fab 6A (in Chinese with English summary translation) (2)
4.2	Lease Agreement with Science Park Administration in relation to government-owned land located at Hsinchu Science Park, third section of first phase, Hsinchu, Taiwan, ROC, the site of Fab 8AB and United Tower (in Chinese with English summary translation) (3)
4.3	Lease Agreement with Science Park Administration in relation to government-owned land located at Hsinchu Science Park, third section of first phase, Hsinchu, Taiwan, ROC, the site of Fab 8C (in Chinese with English summary translation) (4)
4.4	Lease Agreement with Science Park Administration in relation to government-owned land located at Hsinchu Science Park, third section of first phase, Hsinchu, Taiwan, ROC, the site of Fab 8D (in Chinese with English summary translation) (5)
4.5	Lease Agreement with Science Park Administration in relation to government-owned land located at Hsinchu Science Park, third section of second phase, Hsinchu, Taiwan, ROC, the site of Fab 8E (in Chinese with English summary translation) (6)
4.6	Lease Agreement with Science Park Administration in relation to government-owned land located at Hsinchu Science Park, Gin-Shan section, Hsinchu, Taiwan, ROC, the site of Fab 8F (in Chinese with English summary translation) (7)
4.7	Lease Agreement with Southern Taiwan Science Park Administration in relation to government-owned land located at Tainan Science Park, Tainan, Taiwan, ROC, the site of Fab 12A (in Chinese with English summary translation) (8)
*4.8	Merger Agreement, entered into as of February 26, 2004, between United Microelectronics Corporation and SiS Microelectronics Corporation
*8.1	List of Significant Subsidiaries of United Microelectronics Corporation
*11.1	Code of Ethics
*12.1	Certification of our Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
*12.2	Certification of our Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
*13.1	Certification of our Chief Executive Officer pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
*13.2	Certification of our Chief Financial Officer pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
*14.1	Consent of Independent Accountants

\* filed herewith.

- (1) Incorporated by reference to Exhibit (a) to the Registrant's Registration Statement on Form F-6 (File No. 333-13796) filed with the Commission on August 6, 2001.
- (2) Incorporated by reference to Exhibit 10.6 to the Registrant's Registration Statement on Form F-1 (File No. 333-12444) filed with the Commission on August 28, 2000, as amended.
- (3) Incorporated by reference to Exhibit 10.7 to the Registrant's Registration Statement on Form F-1 (File No. 333-12444) filed with the Commission on August 28, 2000, as amended.
- (4) Incorporated by reference to Exhibit 10.8 to the Registrant's Registration Statement on Form F-1 (File No. 333-12444) filed with the Commission on August 28, 2000, as amended.
- (5) Incorporated by reference to Exhibit 10.9 to the Registrant's Registration Statement on Form F-1 (File No. 333-12444) filed with the Commission on August 28, 2000, as amended.
- (6)

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Incorporated by reference to Exhibit 10.10 to the Registrant's Registration Statement on Form F-1 (File No. 333-12444) filed with the Commission on August 28, 2000, as amended.

(7) Incorporated by reference to Exhibit 10.11 to the Registrant's Registration Statement on Form F-1 (File No. 333-12444) filed with the Commission on August 28, 2000, as amended.

(8) Incorporated by reference to Exhibit 10.12 to the Registrant's Registration Statement on Form F-1 (File No. 333-12444) filed with the Commission on August 28, 2000, as amended.

**Table of Contents**

**SIGNATURES**

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

United Microelectronics Corporation

By: /s/ Stan Hung  
Name: Stan Hung

Title: Chief Financial Officer

Date: June 17, 2004

**Table of Contents**

**United Microelectronics Corporation and Subsidiaries**

**Consolidated Financial Statements as of December 31, 2001, 2002 and 2003**

**Together with Independent Auditor's Report**

F-1



**Table of Contents**

**REPORT OF INDEPENDENT AUDITORS**

To the Board of Directors and Shareholders of

United Microelectronics Corporation

We have audited the accompanying consolidated balance sheets of United Microelectronics Corporation and subsidiaries as of December 31, 2002 and 2003, and the related consolidated statements of operations, changes in stockholders' equity and cash flows for the years ended December 31, 2001, 2002 and 2003. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the Republic of China and in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of United Microelectronics Corporation and subsidiaries as of December 31, 2002 and 2003, and the consolidated results of their operations and their cash flows for the years ended December 31, 2001, 2002 and 2003, in conformity with the Guidelines Governing the Preparation of Financial Reports by Securities Issuers and accounting principles generally accepted in the Republic of China, which differ in certain respects from accounting principles generally accepted in the United States of America (see note 31 to the consolidated financial statements).

/s/ Diwan, Ernst & Young  
DIWAN, ERNST & YOUNG

CERTIFIED PUBLIC ACCOUNTANTS

Taipei, Taiwan

Republic of China

January 15, 2004

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****CONSOLIDATED BALANCE SHEETS**

(Expressed in thousands)

	Notes	As of December 31,		
		2002	2003	
		NT\$	NT\$	US\$
<b>Assets</b>				
Current assets				
Cash and cash equivalents	2, 4	74,902,448	118,771,773	3,494,315
Marketable securities, net	2, 5	2,526,365	1,820,328	53,555
Notes receivable	6	83,001	8,756	257
Notes receivable - related parties	23	2,370	101,753	2,994
Accounts receivable, net	2, 7	9,800,607	15,079,068	443,632
Accounts receivable - related parties, net	2, 23	2,201,045	3,285,371	96,657
Other receivables	2	1,249,212	624,562	18,375
Other receivables - related parties	2, 23	1,910,268	84,384	2,483
Other financial assets, current	2, 8	5,980,960	2,446,603	71,980
Inventories, net	2, 9	8,440,005	8,370,165	246,254
Prepaid expenses		800,491	752,697	22,144
Deferred income tax assets, current	2, 21	2,994,572	2,953,378	86,890
Restricted bank balances	24		21,875	643
Other current assets		30,833	1,089	32
<b>Total current assets</b>		<b>110,922,177</b>	<b>154,321,802</b>	<b>4,540,211</b>
Funds and long-term investments	2, 3, 10			
Long-term investments accounted for under the equity method		16,771,590	21,905,026	644,455
Long-term investments accounted for under the cost method		22,023,110	16,964,768	499,110
Prepaid long-term investments		54,486	52,343	1,540
Other long-term investments		60,000	60,000	1,765
Less: Allowance for loss on decline in market value		(1,108,690)	(62,888)	(1,850)
<b>Total funds and long-term investments</b>		<b>37,800,496</b>	<b>38,919,249</b>	<b>1,145,020</b>
Other financial assets, noncurrent	8	873,000	1,848,530	54,385
Property, plant and equipment	2, 11, 23, 24, 25			
Land		1,796,419	1,560,237	45,903
Buildings		16,985,813	17,721,538	521,375
Machinery and equipment		254,010,057	273,066,176	8,033,721
Furniture and fixtures		2,424,267	2,521,756	74,191
Leasehold improvements		86,319	40,848	1,202
<b>Total cost</b>		<b>275,302,875</b>	<b>294,910,555</b>	<b>8,676,392</b>
Less : Accumulated depreciation		(131,461,473)	(168,200,915)	(4,948,541)
Add : Construction in progress and prepayments		23,235,508	22,846,921	672,166
<b>Property, plant and equipment, net</b>		<b>167,076,910</b>	<b>149,556,561</b>	<b>4,400,017</b>
Deferred charges	2	3,564,721	3,048,667	89,693
Deferred income tax assets, noncurrent	2, 21	5,232,928	4,485,003	131,951

Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Other assets	12, 24	1,558,655	2,333,991	68,667
<b>Total assets</b>		<b>327,028,887</b>	<b>354,513,803</b>	<b>10,429,944</b>
<b>Liabilities and Stockholders Equity</b>				
Current liabilities				
Short-term loans	13	1,178,800	1,884,899	55,455
Notes payable		89,313	153,892	4,527
Accounts payable		4,420,351	5,787,440	170,269
Accounts payable - related parties	23	398,681	812,849	23,914
Income tax payable	2	284,678	224,930	6,618
Accrued expenses		4,032,474	5,213,758	153,391
Payable to equipment suppliers		8,788,838	7,370,809	216,852
Current portion of long-term interest-bearing liabilities	14, 15, 23, 24	7,781,598	20,923,327	615,573
Current portion of capacity deposits	25	1,917,096	1,294,909	38,097
Other current liabilities		255,584	473,001	13,916
<b>Total current liabilities</b>		<b>29,147,413</b>	<b>44,139,814</b>	<b>1,298,612</b>
Long-term liabilities				
Bonds payable	2, 10, 14	49,441,484	58,213,913	1,712,678
Long-term loans	15, 23, 24	12,879,512	2,120,533	62,387
Accrued pension liabilities	2, 16	2,030,786	2,309,892	67,958
Deposits-in		2,698	5,255	154
Other long-term liabilities		78,623	413,326	12,160
<b>Total long-term liabilities</b>		<b>64,433,103</b>	<b>63,062,919</b>	<b>1,855,337</b>
<b>Total liabilities</b>		<b>93,580,516</b>	<b>107,202,733</b>	<b>3,153,949</b>
Minority interests				
Stockholders equity		16,023,886	15,078,024	443,602
Capital stock	17	154,748,456	161,407,435	4,748,674
Capital reserve	2	81,875,491	80,074,184	2,355,816
Retained earnings	19	20,004,054	26,794,291	788,299
Unrealized loss on long-term investments	2	(1,349,248)	(90,864)	(2,673)
Cumulative translation adjustment	2	728,851	913,877	26,886
Treasury stock	2, 3, 18	(38,583,119)	(36,865,877)	(1,084,609)
<b>Total stockholders equity</b>		<b>217,424,485</b>	<b>232,233,046</b>	<b>6,832,393</b>
<b>Total liabilities and stockholders equity</b>		<b>327,028,887</b>	<b>354,513,803</b>	<b>10,429,944</b>

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

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF OPERATIONS**

(Expressed in thousands, except per share data)

	Notes	For the year ended December 31,			
		2001	2002	2003	
		NT\$	NT\$	NT\$	US\$
Net operating revenues	2, 23	69,816,799	75,425,356	95,703,732	2,815,644
Cost of goods sold	20, 23	(60,567,909)	(62,887,302)	(73,937,813)	(2,175,282)
<b>Gross profit</b>		<b>9,248,890</b>	<b>12,538,054</b>	<b>21,765,919</b>	<b>640,362</b>
Operating expenses	20				
Sales and marketing expenses		(2,275,884)	(1,526,907)	(2,170,897)	(63,868)
General and administrative expenses		(4,425,568)	(3,530,756)	(3,996,466)	(117,578)
Research and development expenses		(8,959,691)	(7,368,133)	(5,858,629)	(172,363)
		(15,661,143)	(12,425,796)	(12,025,992)	(353,809)
<b>Operating (loss) income</b>		<b>(6,412,253)</b>	<b>112,258</b>	<b>9,739,927</b>	<b>286,553</b>
Non-operating income					
Interest revenue		2,487,485	1,644,100	1,141,264	33,576
Investment income accounted for under the equity method, net	2		230,600	300,724	8,847
Dividend income		246,700	256,543	837,696	24,645
Gain on disposal of property, plant and equipment	2, 23	186,013	66,236	216,992	6,384
Gain on disposal of investments, net	2, 14	2,347,219	8,473,213	6,885,374	202,571
Exchange gain, net	2	648,169		256,452	7,545
Recovery on decline in market value of marketable securities	2			10,806	318
Other income		601,414	702,287	764,190	22,483
		6,517,000	11,372,979	10,413,498	306,369
Non-operating expenses					
Interest expense	11, 23	(2,525,937)	(1,455,374)	(1,326,155)	(39,016)
Investment loss accounted for under the equity method, net	2	(1,632,859)			
Other investment loss	2	(442,182)	(1,419,371)	(1,866,454)	(54,912)
Loss on disposal of property, plant and equipment	2	(231,536)	(45,814)	(170,576)	(5,018)
Exchange loss, net	2		(103,703)		
Loss on decline in market value and obsolescence of inventories	2	(1,529,823)	(955,074)	(1,443,565)	(42,470)
Financial expenses		(220,610)	(426,560)	(387,916)	(11,413)
Other losses		(87,837)	(63,093)	(263,054)	(7,739)
		(6,670,784)	(4,468,989)	(5,457,720)	(160,568)
<b>(Loss) income before income tax and minority interests</b>		<b>(6,566,037)</b>	<b>7,016,248</b>	<b>14,695,705</b>	<b>432,354</b>
Income tax benefit (expense)	2, 21	3,039,989	(270,731)	(979,469)	(28,816)
Minority interests loss		368,746	326,515	304,021	8,944

Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Net (loss) income		<u>(3,157,302)</u>	<u>7,072,032</u>	<u>14,020,257</u>	<u>412,482</u>
(Loss) earnings per share - basic (in dollars)	2, 22	<u>(0.20)</u>	<u>0.46</u>	<u>0.92</u>	
Shares used in per share calculation - basic		<u>15,577,359</u>	<u>15,402,328</u>	<u>15,313,315</u>	
(Loss) earnings per share - diluted (in dollars)	2, 22	<u>(0.20)</u>	<u>0.46</u>	<u>0.90</u>	
Shares used in per share calculation - diluted		<u>15,577,359</u>	<u>15,602,069</u>	<u>15,664,155</u>	
Pro forma information on earnings as if unconsolidated subsidiaries investment in the Company is not treated as treasury stock					
Net income			<u>7,072,032</u>	<u>14,020,257</u>	
Earnings per share - basic (in dollars)	2, 22		<u>0.46</u>	<u>0.91</u>	
Earnings per share - diluted (in dollars)	2, 22		<u>0.46</u>	<u>0.90</u>	

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

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS EQUITY**

(Expressed in thousands)

	Capital Stock		Retained Earnings			Treasury Stock	Unrealized Loss on Long-term Investments	Cumulative Translation Adjustment	Total	
	Common Stock	Shares	Capital Reserve	Special Reserve	Legal Reserve					Unappropriated Earnings
	NT\$		NT\$	NT\$	NT\$					NT\$
Balance at January 1, 2001	114,714,519	11,471,452	82,161,068		5,625,234	50,759,921	(31,071,718)	(2,265,279)	24,202	219,947,947
Appropriation of 2000 retained earnings										
Legal reserve					5,060,991	(5,060,991)				
Special reserve				2,242,284		(2,242,284)				
Stock dividends	17,151,040	1,715,104				(17,151,040)				
Directors and supervisors remuneration									(433,039)	(433,039)
Employees bonus	1,491,395	149,139				(1,491,395)				
Purchase of treasury stock							(4,599,643)			(4,599,643)
Net loss in 2001									(3,157,302)	(3,157,302)
Issuance cost adjustment for American Depository Shares				147,086						147,086
Adjustment of capital reserve accounted for under the equity method				(192,472)						(192,472)
Changes in unrealized loss on long-term investments								1,514,297		1,514,297

Changes in unrealized loss on long-term investments of investees								280,051		280,051
Changes in cumulative translation adjustment									(184,672)	(184,672)
Balance at December 31, 2001	133,356,954	13,335,695	82,115,682	2,242,284	10,686,225	21,223,870	(35,671,361)	(470,931)	(160,470)	213,322,253

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

Table of Contents

## UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES

## CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS EQUITY (Continued)

(Expressed in thousands)

	Capital Stock		Retained Earnings			Treasury Stock	Unrealized Loss on Long-term Investments	Cumulative Translation Adjustment	Total	
	Common Stock	Shares	Capital Reserve	Special Reserve	Legal Reserve					Unappropriated Earnings
	NT\$		NT\$	NT\$	NT\$					NT\$
Balance at January 1, 2002	133,356,954	13,335,695	82,115,682	2,242,284	10,686,225	21,223,870	(35,671,361)	(470,931)	(160,470)	213,322,253
Appropriation of 2001 retained earnings										
Special reserve				(1,610,302)		1,610,302				
Stock dividends	19,680,182	1,968,018				(19,680,182)				
Employees bonus	1,711,320	171,132				(1,711,320)				
Purchase of treasury stock							(2,739,918)			(2,739,918)
Treasury stock held by unconsolidated subsidiaries							(171,840)			(171,840)
Net income in 2002						7,072,032				7,072,032
Transfer of capital reserve arising from gain on disposal of property, plant and equipment to retained earnings				(170,473)		170,473				
Transfer of capital reserve arising from gain on disposal of property, plant and equipment of investees to retained earnings				(672)		672				



Adjustment of capital reserve accounted for under the equity method									(69,046)	(69,046)
Changes in unrealized loss on long-term investments of investees									(878,317)	(878,317)
Changes in cumulative translation adjustment									889,321	889,321
Balance at December 31, 2002	154,748,456	15,474,845	81,875,491	631,982	10,686,225	8,685,847	(38,583,119)	(1,349,248)	728,851	217,424,485

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

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS EQUITY (Continued)**

(Expressed in thousands)

	Capital Stock		Retained Earnings			Treasury Stock	Unrealized Loss on Long-term Investments	Cumulative Translation Adjustment	Total	
	Common Stock	Shares	Capital Reserve	Special Reserve	Legal Reserve					Unappropriated Earnings
	NT\$		NT\$	NT\$	NT\$					NT\$
Balance at January 1, 2003	154,748,456	15,474,845	81,875,491	631,982	10,686,225	8,685,847	(38,583,119)	(1,349,248)	728,851	217,424,485
Appropriation of 2002 retained earnings										
Legal reserve					724,250	(724,250)				
Special reserve				715,012		(715,012)				
Stock dividends	6,079,252	607,926				(6,079,252)				
Directors and supervisors remuneration						(5,650)				(5,650)
Employees bonus	579,727	57,973				(579,727)				
Purchase of treasury stock							(2,056,064)			(2,056,064)
Treasury stock transferred to employees						(565,716)	3,773,306			3,207,590
Net income in 2003						14,020,257				14,020,257
Transfer of capital reserve arising from gain on disposal of property, plant and equipment of investees to retained earnings						(325)	325			
Adjustment of capital				(1,800,982)						(1,800,982)

reserve accounted for under the equity method										
Changes in unrealized loss on long-term investments of investees							1,258,384		1,258,384	
Changes in cumulative translation adjustment								185,026	185,026	
Balance at December 31, 2003 (in NT\$)	161,407,435	16,140,744	80,074,184	1,346,994	11,410,475	14,036,822	(36,865,877)	(90,864)	913,877	232,233,046
Balance at December 31, 2003 (in US\$)	4,748,674		2,355,816	39,629	335,701	412,969	(1,084,609)	(2,673)	26,886	6,832,393

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

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF CASH FLOWS**

(Expressed in thousands)

	For the year ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
<b>Cash flows from operating activities:</b>				
Net (loss) income	(3,157,302)	7,072,032	14,020,257	412,482
Adjustments to reconcile net (loss) income to net cash provided by (used in) operating activities:				
Minority interests loss	(368,746)	(326,515)	(304,021)	(8,944)
Depreciation	34,390,192	36,567,535	39,233,479	1,154,265
Amortization	1,877,551	1,699,766	1,629,854	47,951
Loss (recovery) on decline in market value of marketable securities		10,806	(10,806)	(318)
(Reversal on allowance for doubtful accounts) bad debt expenses	(108,892)	(66,512)	80,249	2,361
Loss on decline in market value and obsolescence of inventories	1,529,823	955,074	1,443,565	42,470
Investment loss (income) accounted for under the equity method	1,554,402	(230,600)	(300,724)	(8,847)
Cash dividends received under the equity method	227,025	156,820	273,762	8,054
Impairment loss on long-term investments	535,890	1,408,565	1,866,454	54,912
Gain on disposal of investments	(2,347,219)	(8,473,213)	(6,885,374)	(202,571)
Loss (gain) on disposal of property, plant and equipment	73,683	30,532	(23,832)	(701)
Gain on reacquisition of bonds		(256,204)	(145,019)	(4,267)
Amortization of bond premiums			(19,386)	(570)
Exchange loss (gain) on long-term liabilities	431,142	(145,671)	(519,544)	(15,285)
Patent rights return	(93,990)			
Changes in assets and liabilities:				
Notes receivable	261,920	217,922	(25,138)	(740)
Accounts receivable	11,341,957	(3,380,836)	(6,919,470)	(203,574)
Other receivables	(1,384,871)	(55,869)	2,719,915	80,021
Inventories	3,493,492	(3,638,525)	(1,331,056)	(39,160)
Prepaid expenses	(399,153)	(1,605)	124,294	3,657
Deferred income tax assets	(3,394,095)	125,072	853,864	25,121
Other current assets			(139)	(4)
Notes payable		245	(245)	(7)
Accounts payable	(4,229,047)	443,884	1,971,892	58,014
Income tax payable	(754,950)	283,728	(64,417)	(1,895)
Accrued expenses	689,462	(1,373,026)	1,162,050	34,188
Other current liabilities	(693,509)	2,674	352,182	10,361
Compensation interest payable	4,415	78,977	67,938	1,999
Accrued pension liabilities	471,411	450,060	299,270	8,805
Capacity deposits	236,902	(1,028,162)	74,820	2,201
Other long-term liabilities			313	9
<b>Net cash provided by operating activities</b>	<b>40,187,493</b>	<b>30,526,954</b>	<b>49,624,987</b>	<b>1,459,988</b>
<b>Cash flows from investing activities:</b>				
(Increase) decrease in marketable securities, net	(1,256,567)	(839,551)	723,834	21,295
Decrease in restricted bank balances	2,660,800			
(Increase) decrease in other financial assets, net		(6,853,960)	2,665,117	78,409

Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Acquisition of long-term investments	(4,417,786)	(3,754,478)	(9,849,367)	(289,772)
Proceeds from disposal of long-term investments	4,878,280	12,385,637	11,041,934	324,858
Withdrawal of prepayments for long-term investments	1,772			
Acquisition of minority interests			(4,168,706)	(122,645)
Acquisition of property, plant and equipment	(43,050,831)	(35,977,747)	(24,819,683)	(730,205)
Proceeds from disposal of property, plant and equipment	544,099	333,180	840,760	24,735
Increase in deferred charges	(2,409,062)	(1,695,110)	(675,460)	(19,872)
(Increase) decrease in other assets, net	(207,749)	29,293	127,139	3,740
Acquisition of subsidiaries		(65,988)		
	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
Net cash used in investing activities	(43,257,044)	(36,438,724)	(24,114,432)	(709,457)
	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>

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

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF CASH FLOWS (Continued)**

(Expressed in thousands)

	For the year ended December 31,			
	2001	2002	2003	
	NT\$	NT\$	NT\$	US\$
<b>Cash flows from financing activities:</b>				
(Decrease) increase in short-term loans, net	(3,243,955)	388,100	615,040	18,095
Proceeds from long-term loans	5,185,910	4,425,000	680,400	20,018
Repayment of long-term loans	(21,427,663)	(10,047,079)	(14,269,647)	(419,819)
Proceeds from bonds issued	35,596,096	13,097,062	29,095,410	855,999
Redemption of bonds		(1,140,000)	(2,209,104)	(64,993)
Reacquisition of bonds		(879,100)	(2,156,908)	(63,457)
Remuneration paid to directors and supervisors	(433,039)		(5,650)	(166)
Increase in deposits-in, net	361	1,152	5,147	151
Purchase of treasury stock	(4,599,643)	(2,877,190)	(2,262,897)	(66,575)
Exercise of employee stock options			42,934	1,263
Treasury stock transferred to employees			3,207,590	94,369
Proceeds from minority shareholders on stock issuance of subsidiaries	7,106,287	194,341	4,838,835	142,360
<b>Net cash provided by financing activities</b>	<b>18,184,354</b>	<b>3,162,286</b>	<b>17,581,150</b>	<b>517,245</b>
Effect of exchange rate changes on cash and cash equivalents	(680,808)	747,864	777,620	22,878
<b>Net increase (decrease) in cash and cash equivalents</b>	<b>14,433,995</b>	<b>(2,001,620)</b>	<b>43,869,325</b>	<b>1,290,654</b>
<b>Cash and cash equivalents at beginning of year</b>	<b>62,470,073</b>	<b>76,904,068</b>	<b>74,902,448</b>	<b>2,203,661</b>
<b>Cash and cash equivalents at end of year</b>	<b>76,904,068</b>	<b>74,902,448</b>	<b>118,771,773</b>	<b>3,494,315</b>
<b>Supplemental disclosures of cash flow information :</b>				
Cash paid for interest	2,339,333	1,993,014	1,581,736	46,535
Cash paid for income tax	1,196,418	198,036	94,841	2,790
<b>Investing activities partially paid by cash :</b>				
Acquisition of property, plant and equipment	41,541,665	32,284,302	23,401,654	688,486
Add: Payable at beginning of year	13,991,449	12,482,283	8,788,838	258,571
Less: Payable at end of year	(12,482,283)	(8,788,838)	(7,370,809)	(216,852)
<b>Cash paid for acquiring property, plant and equipment</b>	<b>43,050,831</b>	<b>35,977,747</b>	<b>24,819,683</b>	<b>730,205</b>
<b>Investing and financing activities not affecting cash flows :</b>				
Principal amount of exchangeable bonds exchanged by bondholders			194,304	5,716
Book value of reference shares delivered for exchange			(75,505)	(2,221)
Elimination of related balance sheet accounts			4,348	128
Recognition of gain on disposal of investments			123,147	3,623



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

F-9

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

1. General Descriptions of Reporting Entities

United Microelectronics Corporation (the Company) was incorporated in May 1980 and commenced operations in April 1982. The Company is a full service semiconductor wafer foundry, and provides a variety of services to fit individual customer needs. These services include intellectual property, embedded IC design, design verification, mask tooling, wafer fabrication, and testing. The Company's common shares were publicly listed on the Taiwan Stock Exchange (TSE) in July 1985 and its American Depository Shares (ADSs) were listed on the New York Stock Exchange in September 2000.

The Company's consolidated financial statements include the financial statements of the Company and the following subsidiaries (hereinafter referred to collectively as the Group):

Hsun Chieh Investment Co., Ltd. (Hsun Chieh) was incorporated in January 2000 and the principal activity is investment holding. The Company owned 99.97% of interest in Hsun Chieh as of December 31, 2002 and 2003, respectively.

UMC Japan (UMCJ) was incorporated in May 1984 in Japan and is engaged in the business of sales and manufacturing of integrated circuits. The Group owned 51.47% and 51.89 % of interest in UMCJ as of December 31, 2002 and 2003, respectively.

UMC Group (USA) (UMC-USA) was incorporated in August 1997 and is engaged in the business of sales of semiconductor products and providing related foundry services. The Company owned 100% of interest in UMC-USA as of December 31, 2002 and 2003, respectively.

UMCi Ltd. (UMCi) was incorporated in January 2001 and is engaged in the business of sales and manufacturing of integrated circuits. The Group owned 49.82% and 77.72% of interest in UMCi as of December 31, 2002 and 2003, respectively. In accordance with the Foundry Venture Agreement with other shareholders of UMCi, the Company obtained the controlling influence over UMCi's decisions on its operations, personnel, and financial policies since incorporation. Therefore, UMCi was included in the consolidation despite an equity interest of less than 50% in 2001 and 2002.

United Microelectronics (Europe) B.V. (UMC-BV) was incorporated in May 1989 and is engaged in the business of sales of semiconductor products and providing related foundry services. The Company acquired UMC-BV in May 2002, and owned 100% of interest as of December 31, 2002 and 2003, respectively.

United Microdisplay Optonics Corp. (UMO) was incorporated in September 2002 and is engaged in the business of sales and manufacturing of chips for Liquid Crystal on Silicon (LCOS). The Company owned 85% and 83.48% of interest in UMO as of December 31, 2002 and 2003, respectively.





**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

Fortune Venture Capital Corporation (Fortune), UMC Capital Corporation, United Microelectronics Corp. (Samoa), and United Foundry Service, Inc. were excluded from the consolidation (see Note 2 - Principles of Consolidation).

2. Summary of Significant Accounting Policies

The financial statements were prepared in conformity with the Guidelines Governing the Preparation of Financial Reports by Securities Issuers and accounting principles generally accepted in the Republic of China (ROC).

Summary of significant accounting policies is as follows:

*Principles of Consolidation*

The consolidated financial statements include the accounts of the Company and certain majority-owned (above 50%) subsidiaries in accordance with the requirements of the Statements of Financial Accounting Standards of the Republic of China (ROC SFAS) No. 7. All intercompany accounts and transactions have been eliminated in the consolidated financial statements.

Pursuant to ROC SFAS NO.7, if the total assets and operating revenues of a subsidiary are less than 10% of the non-consolidated total assets and operating revenues of the Company, respectively, the subsidiary's financial statements may, at the option of the Company, not be consolidated. Irrespective of the above test, when the total combined assets or operating revenues of all such non-consolidated subsidiaries constitute up to 30% of the Company's non-consolidated total assets or operating revenues, then each individual subsidiary with total assets or operating revenues up to 3% of the Company's non-consolidated total assets or operating revenues has to be included in the consolidation. Such subsidiaries are included in the consolidated financial statements thereafter, unless the percentage of the combined total assets or operating revenues for all such subsidiaries becomes less than 20% of the Company's respective unconsolidated amount.

The difference of the acquisition cost and the underlying equity in the subsidiary's net assets is amortized over 5 years.

*Foreign Currency Transactions*

The accounts of the Company are maintained in New Taiwan Dollars, the functional currency. Transactions denominated in foreign currencies are translated into New Taiwan Dollars at the exchange rates prevailing at the transaction dates. Receivables, other monetary assets, and liabilities denominated in foreign currencies are translated into New Taiwan Dollars at the exchange rates prevailing at the balance sheet date.

Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Exchange gains or losses are included in the current year's results. However, exchange gains or losses from investments in foreign entities are recorded as cumulative translation adjustments in stockholders' equity.

F-11

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

*Translation of Foreign Currency Financial Statements*

The financial statements of foreign subsidiaries are translated into New Taiwan Dollars using the spot rates as of each financial statement date for asset and liability accounts, average exchange rates for profit and loss accounts, historical exchange rates for equity accounts, and exchange rates at the date the dividend is declared. The cumulative translation effects from subsidiaries using functional currencies other than the New Taiwan Dollars are included in the cumulative translation adjustment in stockholders' equity.

*Use of Estimates*

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that will affect the amount of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reported period. Actual results could differ from those estimates.

*Certain Risks and Uncertainties*

The Group is engaged in the foundry business of manufacturing semiconductor products and sells its products primarily in Taiwan, Asia, North America and Europe, generally without requiring collateral. The Group's products are concentrated in the semiconductor industry, which is highly competitive and rapidly changing, and its inventories are subject to rapid technological obsolescence. While the Group has programs to minimize the required inventories on hand and considers technological obsolescence in estimating required allowances to reduce amounts to fair market value, such estimates could change in the future. Significant technological changes in the industry could affect operating results adversely.

*Convenience Translation into US Dollars*

The Company prepares its financial statements in New Taiwan (NT) Dollars, its reporting currency. The United States (US) dollar amounts disclosed in the financial statements as of December 31, 2003, are presented solely for the convenience of the readers and were translated at the Federal Reserve Bank of New York noon buying rate of NT\$33.99 to US\$1.00 in effect on December 31, 2003. Such translation amounts are unaudited and it should not be construed that the NT dollar amounts represent, or have been, or could be, converted into US dollars at that or any other rate.

*Cash Equivalents*

Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash and with maturity dates that do not present significant risks on changes in value resulting from changes in interest rates, including commercial paper with original maturities of 3 months or less.

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**Marketable Securities**

Marketable securities are recorded at cost when acquired and are stated at the lower of aggregate cost or market value at the balance sheet date. Costs of money market funds and short-term notes are identified specifically while other marketable securities are determined on the weighted average method. The market value of listed debt and equity securities, or closed-end funds is determined by the average closing price during the last month of the fiscal year. The market value of open-end funds is determined by the equity per unit at the balance sheet date. The amount by which the aggregate cost exceeds the market value is reported as a loss in the current year. In subsequent periods, recoveries of the market value are recognized as a gain to the extent that the market value does not exceed the original aggregate cost of the investment.

**Allowance for Doubtful Accounts**

The allowance for doubtful accounts is provided based on management's judgment and on the evaluation of collectibility and aging analysis of accounts and other receivables.

**Inventories**

Inventories are accounted for on a perpetual basis. Raw materials are recorded at actual purchase costs, while the work in process and finished goods are recorded at standard costs and adjusted to actual costs using the weighted average method at the end of each month. Inventories are stated at the lower of aggregate cost or market value at the balance sheet date. The market values of raw materials and supplies are determined on the basis of replacement cost while the work in process and finished goods are determined by net realizable values. An allowance for loss on decline in market value and obsolescence is provided, when necessary.

**Long-term Investments**

Long-term investments are recorded at cost when acquired. Investments acquired by contribution of technological know-how are credited to deferred credits among affiliates, which will be amortized to income over a period of 5 years.

Investments of less than 20% of ownership interest in listed investees, where significant influence on operational decisions of the investees does not reside with the Group, are accounted for by the lower of aggregate cost or market value method. The unrealized loss resulting from the decline in market value of investments that are held for long-term investment purposes is deducted from the stockholders' equity. The market value is determined by the average closing price during the last month of the fiscal year. Investments of less than 20% of ownership interest in unlisted investees are accounted for under the cost method. Impairment losses for the investees will be recognized if an other than temporary impairment is evident and the book value after recognizing the losses shall be treated as a new cost basis of such investment. Investment income

or loss from investments in both listed and unlisted investees is accounted for under the equity method provided that the Group owns at least 20% of the outstanding voting shares

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

of the investees and has significant influence on operational decisions of the investees. The difference of the acquisition cost and the underlying equity in the investee's net assets is amortized over 5 years.

The change in the Group's proportionate share in the net assets of its investee resulting from its subscription to additional shares of stock, issued by such investee, at the rate not proportionate to its existing equity ownership in such investee, is charged to the capital reserve and long-term investments account.

Unrealized intercompany gains and losses arising from downstream transactions with investees accounted for under the equity method are eliminated in proportion to the Group's ownership percentage while those from transactions with majority-owned (above 50%) subsidiaries are eliminated entirely. Unrealized intercompany gains and losses arising from upstream transactions with investees accounted for under the equity method are eliminated in proportion to the Group's ownership percentage. Unrealized intercompany gains and losses arising from transactions between investees accounted for under the equity method are eliminated in proportion to the multiplication of the Group's ownership percentages; while those arising from transactions between majority-owned subsidiaries are eliminated in proportion to the Group's ownership percentage in the subsidiary that incurs a gain or loss.

**Property, Plant and Equipment**

Property, plant and equipment are stated at cost. Interest incurred on loans used to finance the construction of property, plant and equipment is capitalized and depreciated accordingly.

Maintenance and repairs are charged to expense as incurred. Significant renewals and improvements are treated as capital expenditure and are depreciated accordingly. When property, plant and equipment are disposed, their original cost and accumulated depreciation are written off and the related gain or loss is classified as non-operating income or expenses.

Depreciation is provided on the straight-line basis using the estimated economic life of the assets less salvage value, if any. When the estimated economic life expires, property, plant and equipment, which are still in use, are depreciated over the newly estimated remaining useful life using the salvage value. The estimated economic life of the property, plant and equipment is as follows: buildings - 3 to 55 years; machinery and equipment - 3 to 6 years; transportation equipment -- 2 to 5 years; furniture and fixtures - 2 to 20 years; leasehold improvements - the lease period, or estimated economic life, whichever is shorter.



**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**Deferred Charges**

Deferred charges are stated at cost and amortized on a straight-line basis as follows: bonds issuance costs over the life of the bonds, patent license fees - the term of contract or estimated economic life of the related technology, software and molds - 3 years, facility use right - 15 years, patents and technological know-how - over the estimated economic life.

At each balance sheet date, the Group assesses whether there is any indication of impairment other than temporary. If any such indication exists, the recoverable amount is estimated and provision for impairment losses is provided accordingly. The book value after recognition of the impairment loss is recorded as the new cost.

**Convertible and Exchangeable Bonds**

The issuance costs of convertible and exchangeable bonds are classified as deferred charges and amortized over the life of the bonds.

The excess of the stated redemption price over the par value is accrued as compensation interest payable over the redemption period, using the effective interest method.

When convertible bondholders exercise their conversion rights, the book value of bonds is credited to common stock at an amount equal to the par value of the common stock and the excess is credited to the capital reserve; no gain or loss is recognized on bond conversion.

When exchangeable bondholders exercise their rights to exchange for the reference shares, the book value of the bonds is to be offset against the book value of the investments in reference shares and the related stockholders' equity accounts, with the difference recognized as gain or loss on disposal of investments.

**Pension Plan**

The net pension cost is computed based on an actuarial valuation, which requires consideration of pension cost components such as service cost, interest cost, expected return on plan assets, and the amortization of net obligation at transition, pension gain or loss, and prior service cost.

Treasury Stock

Treasury stock is accounted for under the cost method. Cost of treasury stock is shown as a deduction to stockholders' equity, while gain or loss from selling treasury stock is treated as an adjustment to the capital reserve. The Company's stock held by its subsidiaries is also treated as treasury stock in the Company's stand-alone account since January 1, 2002.

F-15

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**Revenue Recognition**

Revenue is recognized when ownership and liability for risk of loss or damage to the products have been transferred to customers, usually upon shipment as most of the sales of the Group are in terms of FOB or Free Carrier (FCA) shipment for which the ownership and liability for risk of loss or damage shall pass to the customer upon the Group's tender of delivery to a carrier approved by the customer. Sales returns and discounts taking into consideration customers' complaints and past experiences are accrued in the same year of sales.

**Capital Expenditure versus Operating Expenditure**

An expenditure is capitalized when it is probable that future economic benefits associated to the expenditure will flow to the Group and the expenditure exceeds a predetermined level. Otherwise it is charged to expense when incurred.

**Income Tax**

Income tax is accounted for under the inter-period and intra-period income tax allocation method. Provision for income tax includes deferred income tax resulting from temporary differences, loss carry-forward and investment tax credits. Deferred income tax assets and liabilities are recognized for the expected tax consequences of temporary differences between the tax bases of assets and liabilities and their reported amounts in the financial statements using enacted tax rates and laws that will be in effect when the difference is expected to reverse. Valuation allowance on deferred income tax assets is provided to the extent that it is more likely than not that the tax benefits will not be realized.

The Group recognized the tax benefit from the purchase of equipment and technology, research and development expenditure, employee training, and certain equity investments.

Income tax (10%) on unappropriated earnings is recorded as expense in the year when the shareholders have resolved that the earnings shall be retained.

**Earnings per Share**

Basic earnings per share is computed by dividing net income (loss) by weighted average number of shares outstanding during the year. Diluted earnings per share is computed by taking basic earnings per share into consideration plus additional common shares that would have been outstanding if the dilutive share equivalents had been issued. The net income (loss) would also be adjusted for the interest and other income or

expenses derived from any underlying dilutive share equivalents. The weighted average outstanding shares are adjusted retroactively for stock dividends and bonus share issues.

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**Derivative Financial Instruments

The interest rate swap agreements entered into for hedging purposes are accounted for on a net accrual basis in accordance with the contractual interest rate as an adjustment to the interest income or expense of the hedged items.

Foreign exchange forward contracts are held to hedge the exchange rate risk arising from net assets or liabilities denominated in foreign currency. These forward contracts are translated and recorded using the spot rate at the inception of the contracts, and the discount or premium of the forward contracts is amortized over their lifespan. The difference between the spot rate at the inception of a forward contract and the spot rate at the balance sheet date is reflected in the statement of income. The receivables and payables of the foreign exchange forward contracts are offset and the resulting balances are recorded as either assets or liabilities. Exchange gains or losses from the settlement of forward contracts are included in the current period's earnings.

## 3. Accounting Changes

Prior to January 1, 2002, treasury stock held by the Company's subsidiaries was accounted for in the consolidation level only. Since January 1, 2002, the Company has adopted ROC SFAS No. 30 to further include the Company's stock held by its subsidiaries as treasury stock in the Company's stand-alone account. As of December 31, 2002, this adoption has decreased the amount of long-term investment and stockholder's equity in the consolidated balance sheet by NT\$172 million, respectively, representing the treasury stock held by an unconsolidated subsidiary, while the net income for the year then ended was not affected.

## 4. Cash and Cash Equivalents

	<b>As of December 31,</b>	
	<b>2002</b>	<b>2003</b>
	<b>NT\$ 000</b>	<b>NT\$ 000</b>
Cash:		
Cash on hand	4,849	3,344
Checking and savings accounts	2,415,088	3,263,716
Time deposits	63,829,910	105,578,263
Subtotal	66,249,847	108,845,323
Cash equivalents:		
Commercial paper	8,652,601	9,926,450

Total	74,902,448	118,771,773
-------	------------	-------------

F-17

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

## 5. Marketable Securities, Net

	<b>As of December 31,</b>	
	<b>2002</b>	<b>2003</b>
	<b>NT\$ 000</b>	<b>NT\$ 000</b>
Listed equity securities	35,423	1,443,545
Convertible bonds	2,501,748	376,783
<b>Total</b>	<b>2,537,171</b>	<b>1,820,328</b>
Less: Allowance for loss on decline in market value	(10,806)	
<b>Net</b>	<b>2,526,365</b>	<b>1,820,328</b>

## 6. Notes Receivable

	<b>As of December 31,</b>	
	<b>2002</b>	<b>2003</b>
	<b>NT\$ 000</b>	<b>NT\$ 000</b>
Notes receivable	83,001	8,756

## 7. Accounts Receivable, Net

	<b>As of December 31,</b>	
	<b>2002</b>	<b>2003</b>
	<b>NT\$ 000</b>	<b>NT\$ 000</b>
Accounts receivable	10,062,987	15,500,554
Less: Allowance for sales returns and discounts	(215,086)	(325,745)
Less: Allowance for doubtful accounts	(47,294)	(95,741)
<b>Net</b>	<b>9,800,607</b>	<b>15,079,068</b>

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

## 8. Other Financial Assets, Current

	As of December 31,	
	2002	2003
	NT\$ 000	NT\$ 000
Credit-linked deposits and repackage bonds	6,853,960	4,166,594
Interest rate swaps		128,539
<b>Total</b>	<b>6,853,960</b>	<b>4,295,133</b>
Less: Noncurrent portion	(873,000)	(1,848,530)
<b>Net</b>	<b>5,980,960</b>	<b>2,446,603</b>

Credit-linked deposits and repackage bonds were included in cash and cash equivalents and long-term investments respectively in 2002. However, during 2003, the Taiwan SFC has amended its Guidelines Governing the Preparation of Financial Reports by Securities Issuers and defined a new account other financial assets. As the credit-linked deposits and repackage bonds fall within the definition of this new account, they are now classified as other financial assets in accordance with the amended regulations and the comparatives were reclassified to conform to the new presentation.

## 9. Inventories, Net

	As of December 31,	
	2002	2003
	NT\$ 000	NT\$ 000
Raw materials	269,519	209,616
Supplies and spare parts	1,434,987	1,607,312
Work in process	6,489,834	6,880,234
Finished goods	660,562	194,651
<b>Total</b>	<b>8,854,902</b>	<b>8,891,813</b>
Less: Allowance for loss on decline in market value and obsolescence	(414,897)	(521,648)
<b>Net</b>	<b>8,440,005</b>	<b>8,370,165</b>



Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

- (1) The insurance coverage for inventories amounted to NT\$8,454 million and NT\$8,328 million as of December 31, 2002 and 2003, respectively.
- (2) Inventories were not pledged.

F-19

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

## 10. Long-term Investments

(1) Details of long-term investments are as follows:

(Equity securities refer to common shares unless otherwise stated)

Investee Company	As of December 31,			
	2002		2003	
	Amount	Percentage of Ownership or Voting Rights	Amount	Percentage of Ownership or Voting Rights
	NT\$ 000		NT\$ 000	
<i>Investments accounted for under the equity method:</i>				
United Foundry Service, Inc.	91,270	100.00	95,484	100.00
UMC Capital Corporation	1,028,460	100.00	1,265,822	100.00
United Microelectronics Corp. (Samoa)	6,680	100.00	7,463	100.00
Fortune Venture Capital Corporation	3,013,016	99.99	2,280,265	99.99
Bravotek Corporation			37,500	50.00
Thintek Optronics Corp.			73,421	49.99
Pacific Venture Capital Co., Ltd.	316,270	49.99	313,298	49.99
United Radiotek Incorporation	29,185	29.37	91,426	49.50
UCA Technology, Inc.			49,500	49.50
Afa Technology, Inc.	23,650	47.30	70,372	48.97
VistaPoint, Inc.	34,224	35.65	62,030	48.77
Star Semiconductor Corp.	22,030	46.82	47,022	48.48
Chariotek Inc.			28,500	47.50
DuPont Photomasks Taiwan Ltd.	1,145,403	45.51	1,069,669	45.35
Unitech Capital Inc.	729,999	42.00	757,050	42.00
Ubit Technology, Inc.			19,900	39.80
UC Fund II	174,264	35.45	164,162	35.45
VastView Technology, Inc.			60,567	33.81
Unimicron Technology Corp.	4,562,245	36.28	4,875,575	33.41
RiRa Electronics, Inc.	59,232	32.50	43,355	32.50
Holtek Semiconductor Inc.	563,906	25.61	715,142	27.59
Wiseware Technology Corporation			37,500	25.00
Faraday Technology Corp.	1,776,611	25.61	1,918,758	24.82
Integrated Technology Express Inc.	309,445	24.58	341,310	24.38
Applied Component Technology Corp.	94,055	23.66	43,872	21.42
Novatek Microelectronics Corp.	1,195,123	25.83	1,380,336	20.95
Harvatek Corporation (Note A)	277,203	21.99	278,527	18.84

Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Patentop, Ltd. (Note A)	16,543	18.00	11,688	18.00
AMIC Technology Corporation (Note A)	56,894	13.62	142,154	16.96
Silicon Integrated Systems Corp. (Note D)			5,288,088	16.18
Advance Materials Corporation (Note A)	169,836	15.78	166,443	15.78

F-20

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

<u>Investee Company</u>	As of December 31,			
	2002		2003	
	Amount	Percentage of Ownership or Voting Rights	Amount	Percentage of Ownership or Voting Rights
	NT\$ 000		NT\$ 000	
<i>Investments accounted for under the equity method (continued):</i>				
SerComm Corporation (Note A)	159,465	11.48	168,827	10.46
Accelerated Communications, Inc.	100,000	33.33		
High Bandwidth Access, Inc.	82,934	20.13		
Integrated Telecom Express, Inc. (Note A)	733,647	18.97		
<b>Subtotal</b>	<b>16,771,590</b>		<b>21,905,026</b>	
<i>Investments accounted for under the cost method or the lower of cost or market value method:</i>				
Aptos Corp. (Note B)	112,076	26.07		26.07
Giga Solution Technology Co., Ltd.	105,000	19.44	105,000	19.44
Vialta, Inc.	1,248,457	17.80		17.80
Kits On Line Technology Corp.	38,656	16.41	56,231	15.91
Everglory Resource Technology Co., Ltd.	74,000	15.14	74,000	15.14
LighTuning International, Inc.			24,772	15.08
C-Com Corporation			62,681	14.97
Enovation Group, Inc.	11,809	14.34	11,809	14.34
InComm Technologies Co., Ltd.	44,480	16.00	44,480	12.60
Printech International, Inc.			30,000	12.00
MediaTek Incorporation	1,213,655	13.21	1,055,237	11.13
Golden Technology Venture Capital Investment Corp.	80,000	10.67	80,000	10.67
NCTU Spring I Technology Venture Capital Investment Corp.	43,482	10.06	43,482	10.06
ATP Electronics Taiwan, Inc.			50,000	10.00
RF Integration Corporation	98,610	9.76	98,610	9.76
AU Optronics Corp. (Note C)	6,759,855	11.37	5,991,447	9.74
Trendchip Technologies Corp.			60,406	9.25
United Industrial Gases Co., Ltd.	146,250	8.44	146,250	8.27
Fortune Semiconductor Corporation	71,500	8.72	71,500	8.21
Subtron Technology Co., Ltd.	339,000	11.02	244,080	8.14
Beyond Innovation Technology Co., Ltd.			22,158	8.00
Ralink Technology Corporation			55,500	7.40
Epitech Corporation			94,613	6.90

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

<u>Investee Company</u>	As of December 31,			
	2002		2003	
	Amount	Percentage of Ownership or Voting Rights	Amount	Percentage of Ownership or Voting Rights
<i>Investments accounted for under the cost method or the lower of cost or market value method (continued):</i>				
NCTU Spring Venture Capital Co., Ltd.	20,000	6.28	20,000	6.28
Union Technology Corp.	18,000	9.00	18,000	5.14
Cosmos Technology Venture Capital Investment Corp.	40,000	5.03	40,000	5.03
Industrial Bank of Taiwan Corp.	1,150,000	5.00	1,150,000	5.00
Parawin Venture Capital Corp.	50,000	5.00	50,000	5.00
Leadtek Resarch, Inc.			99,875	4.74
Coretronic Corp.	276,192	4.59	276,192	4.46
Taiwan Asia Pacific Venture Fund	29,295	4.15	29,295	4.15
IBT Venture Co.	90,000	3.81	90,000	3.81
King Yuan Electronics Co., Ltd.	70,000	0.35	366,101	3.33
ProSys Technology Integration, Inc.	4,258	6.70	2,790	3.08
Billionton Systems Inc.			30,948	3.05
ULTRA CHIP, Inc.			38,000	3.01
Sheng-Hua Venture Capital Corp.	50,000	2.50	50,000	2.50
Princeton Technology Corporation			97,901	2.43
Pixart Imaging, Inc.	10,140	1.95	16,107	1.91
Silicon Data International Co., Ltd.			10,200	1.75
Mega Financial Holding Company	4,991,630	1.35	4,991,630	1.36
Largan Optoelectronics, Co., Ltd.	79,989	1.45	39,866	0.71
Premier Image Technology Corporation	27,964	0.64	27,964	0.62
Ingenus Corp.	29,812	0.62		0.62
Averlogic Corporation	1,600	0.22	1,391	0.19
Taiwan High Speed Rail Corporation (Note E)			300,000	
Pacific Technology Partners, L.P. (Note F)	208,256		282,086	
ForteMedia, Inc. (Note E)	65,000		108,456	
Linden Technologies, Inc. (Note E)	92,385		92,385	
Pacific United Technology, L.P. (Note F)	34,600		69,260	
Chip Express Corporation (Note E)	68,198		68,198	
Alpha and Omega Semiconductor, Inc. (Note E)	46,883		46,883	
Primarion, Inc. (Note E)	38,816		38,816	
VenGlobal Capital Fund III, L.P. (Note F)	33,195		33,195	
Formerica International Holding, Inc. (Note E)	30,898		30,898	

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

<u>Investee Company</u>	As of December 31,			
	2002		2003	
	Amount	Percentage of Ownership or Voting Rights	Amount	Percentage of Ownership or Voting Rights
	NT\$ 000		NT\$ 000	
<i>Investments accounted for under the cost method or the lower of cost or market value method (continued):</i>				
Broadcom Corporation (Note E)	7,093		7,093	
Aurora System, Inc. (Note E)	72,226		6,355	
SandCraft, Inc. (Note E)	43,063		4,832	
Triscend Corp. (Note E)	17,409		4,600	
Netlogic Microsystems, Inc. (Note E)	3,195		3,195	
Elite Flash Storage Technology Inc.	19,500	19.50		
Smart Idea Holding Limited	205,069	11.88		
Ayuttha Technology Corp.	16,500	11.00		
Ascend Semiconductor Corp.	14,400	9.00		
Advanced Microelectronic Products, Inc.	126,000	5.50		
Silicon Integrated Systems Corp. (Note D)	1,267,580	4.46		
TECO Electric & Machinery Co., Ltd.	1,535,298	4.02		
Prokia Technology Co., Ltd.	48,000	3.13		
Hantek Technology Co., Ltd.	42,330	2.70		
SAMPO Corporation	224,044	1.73		
Lattice Semiconductor Corporation	65,740	0.44		
Amkor Technology, Inc.	101,696	0.13		
LightCross, Inc. (Note E)	206,880			
ChinaYES InfoMedia (Cayman), Inc. (Note E)	63,146			
Subtotal	22,023,110		16,964,768	
<i>Other long-term investments:</i>				
Golf Club Membership Card	60,000		60,000	
<i>Prepaid long-term investments:</i>				
EE Solutions			52,343	
Ascend Semiconductor Corp.	30,036			
Ayuttha Technology Corp.	24,450			
Subtotal	54,486		52,343	
Less: Allowance for loss on decline in market value	(1,108,690)		(62,888)	
Total	37,800,496		38,919,249	



**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

- Note A: The investments were accounted for under the equity method as the percentage of ownership directly and indirectly held was over 20% or significant influences were exercised by the Group.
- Note B: The investments were accounted for under the cost method as significant influences were not exercised by the Group.
- Note C: Among the shares held by the Company in AU Optronics Corp., approximately 337,455 thousand shares with the book value of NT\$4,772 million were utilized as reference shares for the Company's zero coupon exchangeable bonds.
- Note D: During the first quarter of 2003, the Company acquired additional interests in Silicon Integrated Systems Corp., an investee previously accounted for under the lower of cost or market value method. Percentage of voting rights held by the Company was the highest among shareholders and significant influences were exercised. Thus, the equity method was applied.
- Note E: Amounts represented the investments in preferred shares. As the Group did not possess voting rights and significant influences, the cost method was applied.
- Note F: Amounts represented the investments in limited partnership without voting rights. As the Group was not able to exercise significant influences, the investments were accounted for under the cost method.

- (2) Investment income (loss) accounted for under the equity method, which were based on the audited financial statements of the investees, were NT\$(1,510) million, NT\$231 million and NT\$(301) million for the years ended December 31, 2001, 2002 and 2003, respectively.
- (3) The long-term investments were not pledged.

## 11. Property, Plant and Equipment

	As of December 31, 2002		
	Cost	Accumulated Depreciation	Book Value
	NT\$ 000	NT\$ 000	NT\$ 000
Land	1,796,419		1,796,419
Buildings	16,985,813	(3,849,351)	13,136,462
Machinery and equipment	254,010,057	(126,402,766)	127,607,291
Furniture and fixtures	2,424,267	(1,161,371)	1,262,896
Leasehold improvements	86,319	(47,985)	38,334
Construction in progress and prepayments	23,235,508		23,235,508
<b>Total</b>	<b>298,538,383</b>	<b>(131,461,473)</b>	<b>167,076,910</b>



**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

	As of December 31, 2003		
	Cost	Accumulated Depreciation	Book Value
	NT\$ 000	NT\$ 000	NT\$ 000
Land	1,560,237		1,560,237
Buildings	17,721,538	(4,341,358)	13,380,180
Machinery and equipment	273,066,176	(162,485,690)	110,580,486
Furniture and fixtures	2,521,756	(1,339,705)	1,182,051
Leasehold improvements	40,848	(34,162)	6,686
Construction in progress and prepayments	22,846,921		22,846,921
<b>Total</b>	<b>317,757,476</b>	<b>(168,200,915)</b>	<b>149,556,561</b>

- (1) The total interest expense before capitalization amounted to NT\$2,730 million, NT\$2,006 million and NT\$1,789 million for each of the three years ended December 31, 2001, 2002 and 2003, respectively.

Details of capitalized interest are as follows:

	For the year ended December 31,		
	2001	2002	2003
	NT\$ 000	NT\$ 000	NT\$ 000
Machinery and equipment	202,873	545,551	456,871
Other property, plant and equipment	1,150	5,162	5,795
<b>Total interest capitalized</b>	<b>204,023</b>	<b>550,713</b>	<b>462,666</b>
Interest rates applied	1.55%~7.25%	3.34%~3.89%	1.55%~3.50%

- (2) The insurance coverage for property, plant and equipment amounted to NT\$307,136 million and NT\$308,267 million as of December 31, 2002 and 2003, respectively.
- (3) Please refer to Note 24 for property, plant and equipment pledged as collateral.

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

## 12. Other assets

	As of December 31,	
	2002	2003
	NT\$ 000	NT\$ 000
Deposits-out	937,995	1,272,321
Restricted deposits		156,816
Others	620,660	904,854
<b>Total</b>	<b>1,558,655</b>	<b>2,333,991</b>

Please refer to Note 24 for restricted deposits pledged as collateral.

## 13. Short-term Loans

	As of December 31,	
	2002	2003
	NT\$ 000	NT\$ 000
Unsecured bank loans	1,178,800	1,884,899
Interest rates	1.60% - 2.02%	1.60%~1.74%

The unused short-term lines of credits amounted to NT\$17,538 million and NT\$16,312 million as of December 31, 2002 and 2003, respectively.

## 14. Bonds Payable

As of December 31,

Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

	<u>2002</u>	<u>2003</u>
	<u>NT\$ 000</u>	<u>NT\$ 000</u>
Secured domestic bonds payable	2,850,001	1,710,002
Unsecured domestic bonds payable	25,000,000	40,000,000
Convertible bonds payable	14,408,818	18,057,869
Exchangeable bonds payable	8,182,700	14,804,484
Premiums on exchangeable bonds		187,360
Premiums on convertible bonds	56,572	33,151
Compensation interest payable	83,392	126,763
	<u>                    </u>	<u>                    </u>
Subtotal	50,581,483	74,919,629
Less: Current portion	(1,139,999)	(16,705,716)
	<u>                    </u>	<u>                    </u>
Net	49,441,484	58,213,913
	<u>                    </u>	<u>                    </u>

F-26

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

- (1) On April 27, 2000, the Company issued five-year secured bonds amounting to NT\$3,990 million. The interest is paid semi-annually with a stated interest rate of 5.6%. The bonds are repayable in installments every six months from April 27, 2002 to April 27, 2005.
- (2) During the period from April 16 to April 27, 2001, the Company issued five-year and seven-year unsecured bonds totaling NT\$15,000 million, each with a face value of NT\$7,500 million. The interest is paid annually with stated interest rates of 5.1195% through 5.1850% and 5.2170% through 5.2850%, respectively. The five-year bonds and seven-year bonds are repayable starting from April 2004 to April 2006 and April 2006 to April 2008, respectively, both in three yearly installments at the rates of 30%, 30% and 40%.
- (3) During the period from October 2 to October 15, 2001, the Company issued three-year and five-year unsecured bonds totaling NT\$10,000 million, each with a face value of NT\$5,000 million. The interest is paid annually with stated interest rates of 3.3912% through 3.420% and 3.4896% through 3.520%, respectively. The three-year bonds and five-year bonds are repayable in October 2004 and October 2006, respectively, upon the maturity of the bonds.
- (4) On December 12, 2001, the Company issued zero coupon convertible bonds amounting to US\$302.4 million on the Luxembourg Stock Exchange (LSE). The terms and conditions of the bonds are as follows:
  - a. Final Redemption

Unless previously redeemed, repurchased, cancelled or converted, the bonds will be redeemed at 101.675% of their principal amount on March 1, 2004.

- b. Redemption at the Option of the Company

The Company may redeem all, but not some only, of the bonds, subject to giving no less than 30 nor more than 60 days advance notice, at the early redemption amount, provided that:

- (a) On or at any time after June 13, 2003, the closing price of the ADSs on the New York Stock Exchange or other applicable securities exchange on which the ADSs are listed on any ADS trading day for 20 out of 30 consecutive ADS trading days ending at any time within the period of 5 ADS trading days prior to the date of the redemption notice shall have been at least 130% of the conversion price or last adjusted conversion price, as the case may be, on each such day, or
    - (b) At any time prior to maturity at least 90% in principal amount of the bonds have already been redeemed, repurchased, cancelled or converted.

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

c. Conversion Period

- (a) In respect of the common shares, on or after January 22, 2002 and on or prior to February 20, 2004, or
- (b) In respect of the ADSs, on or after the later of January 22, 2002 and the date on which the shelf registration statement covering the resale of certain ADSs issuable upon conversion of the bonds has been declared effective by the US SEC, up to and including February 20, 2004.

d. Conversion Price

- (a) In respect of the common shares, will be NT\$66.67 per share, and
- (b) In respect of the ADSs, will be US\$9.673 per ADS.

The applicable conversion price will be subject to adjustments upon the occurrence of certain events set out in the indenture.

e. Reacquisition of the Bonds

As of December 31, 2002, the Company had not reacquired any of such bonds from the open market. As of December 31, 2003, the Company had reacquired a total amount of US\$62 million of the bonds from the open market. The corresponding loss on the reacquisition amounting to NT\$5 million for the year ended December 31, 2003 was recognized as other losses.

- (5) On May 10, 2002, the Company issued LSE listed zero coupon exchangeable bonds exchangeable for common shares or ADSs of AU Optronics Corp. (AUO) with an aggregate principal amount of US\$235 million. The terms and conditions of the bonds are as follows:

a. Final Redemption

Unless previously redeemed, exchanged or purchased and cancelled, the bonds will be redeemed at their principal amounts in US Dollars on May 10, 2007.

b. Redemption at the Option of the Company

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

The Company may redeem the bonds, in whole or in part, in principal amount thereof, on or after August 10, 2002 and prior to May 10, 2007 at their principal amount, if the closing price of the AUO common shares on the TSE, translated into US Dollars at the prevailing exchange rate, for a period of 20 consecutive trading days, the last of which occurs not more than 10 days prior to the date upon which notice of such redemption is published, is at least 120% of the exchange price then in effect translated into US Dollars at the rate of NT\$34.645=US\$1.00.

F-28

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

The Company may also redeem the bonds, in whole, but not in part, if at least 90% in principal amount of the bonds has already been exchanged, redeemed or purchased and cancelled.

c. Redemption at the Option of Bondholders

The Company will, at the option of the holders, redeem such bonds on February 10, 2005 at its principal amount.

d. Tax Redemption

The Company may redeem all, but not part, of the bonds, in the event of certain changes in the ROC's tax rules which would require the Company to gross up for payments of principal, or to gross up for payments of interest or premium.

e. Terms of Exchange

Subject to prior permitted redemption and as otherwise provided in the offering, the bonds are exchangeable at any time on or after June 19, 2002 and prior to April 10, 2007, into AUO shares or AUO ADSs at an exchange price of NT\$54.91 per share, determined on the basis of a fixed exchange rate of NT\$34.645=US\$1.00; provided however, that if the exercise date falls within 5 business days from the beginning of, and during, any closed period, the right of the exchanging holder of the bonds to vote with respect to the shares it receives will be subject to certain restrictions.

The exchange price will be subject to adjustments upon the occurrence of certain events set out in the indenture.

- (6) During the period from May 21 to June 24, 2003, the Company issued five-year and seven-year unsecured bonds totaling NT\$15,000 million, each with a face value of NT\$7,500 million. The interest is paid annually with stated interest rates of 4.0% minus USD 12-Month LIBOR and 4.3% minus USD 12-Month LIBOR, respectively, starting from one year after the issue. Stated interest rates are reset annually based on the prevailing USD 12-Month LIBOR. The five-year bonds and seven-year bonds are repayable in 2008 and 2010, respectively, upon the maturity of the bonds.
- (7) On July 15, 2003, the Company issued its second LSE listed zero coupon exchangeable bonds exchangeable for common shares of AUO with an aggregate principal amount of US\$206 million. The issue price was set at 103.0% of the principal amount. The terms and conditions of the bonds are as follows:

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

a. Final Redemption

Unless previously redeemed, exchanged or purchased and cancelled, the bonds will be redeemed at their principal amounts in US Dollars on July 15, 2008.

b. Redemption at the Option of the Company

The Company may redeem the bonds, in whole or in part, in principal amount thereof, on or after January 15, 2004 and on or prior to July 15, 2005, at their principal amount, plus a certain premium (the Early Redemption Amount ) and thereafter until July 15, 2008 at their principal amount, if the closing price of the AUO common shares on the TSE, translated into US Dollars at the prevailing exchange rate, for a period of 20 consecutive trading days, the last of which occurs not more than 10 days prior to the date upon which notice of such redemption is published, is at least 125% of the exchange price then in effect translated into US Dollars at the rate of NT\$34.390=US\$1.00.

The Company may also redeem the bonds, in whole, but not in part, if at least 90% in principal amount of the bonds has already been exchanged, redeemed or purchased and cancelled.

c. Redemption at the Option of Bondholders

The Company will, at the option of the holders, redeem such bonds on July 15, 2005 at its principal amount.

d. Tax Redemption

The Company may redeem all, but not part, of the bonds, at any time, in the event of certain changes in the ROC's tax rules which would require the Company to gross up for payments of principal, or to gross up for payments of interest or premium.

e. Terms of Exchange

Subject to prior permitted redemption and as otherwise provided in the offering, the bonds are exchangeable at any time on or after August 14, 2003 and prior to June 30, 2008, into AUO shares at an exchange price of NT\$36.387 per share, determined on the basis of a fixed exchange rate of NT\$34.390=US\$1.00; provided however, that if the exercise date falls within 5 business days from the beginning of, and during, any closed period, the right of the exchanging holder of the bonds to vote with respect to the shares it receives will be subject to certain restriction.



The exchange price will be subject to adjustments upon the occurrence of certain events set out in the indenture.

F-30

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

f. Exchange of the Bonds

As of December 31, 2003, certain bondholders have exercised their rights to exchange their bonds with the total principal amount of US\$6 million into AUO shares. The corresponding gain on exchange of NT\$123 million for the year ended December 31, 2003 was recognized as a gain on disposal of investments.

- (8) On March 25, 2002, the Company's subsidiary - UMCJ issued LSE listed zero coupon convertible bonds with an aggregate principal amount of JPY17,000 million and the issue price was set at 101.75% of the principal amount. The terms and conditions of the bonds are as follows:

a. Final Redemption

Unless previously converted, purchased and cancelled or redeemed, the bonds will be redeemed on March 26, 2007 at their principal amount.

b. Redemption at the Option of UMCJ

- (a) On or at any time after March 25, 2005, UMCJ may redeem all, but not part, of the bonds if the closing price of the shares on the Japan OTC Market is at least 120% of the conversion price then in effect for at least 20 out of 30 consecutive trading days ending on the trading day immediately prior to the date of the notice of redemption; or if the principal amount that has not been redeemed, repurchased and cancelled or converted is equal to or less than 10% of original aggregate principal amount.
- (b) In case of a corporate split or share exchange/ share transfer, UMCJ may redeem all, but not part, of the bonds on or prior to the effective date of the transaction, provided that UMCJ is not able to ensure that the bondholders have the right to receive shares which they would have received had the conversion rights been exercised prior to the transaction.
- (c) If a change in who controls UMCJ occurs, the bondholders will be able to require UMCJ to redeem their bonds on the date that is 85 days after the change of control date.

c. Conversion Period

At any time on or after May 3, 2002 and on or prior to March 19, 2007.

d. Conversion Price

The conversion price was set at JPY 400,000 per share, subject to adjustments upon the occurrence of certain events set out in the indenture.

---

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

e. Reacquisition of the Bonds

As of December 31, 2002 and 2003, UMCJ has reacquired a total amount of JPY 3,850 million and JPY 3,800 million of the bonds from the open market, respectively. The corresponding gains on the reacquisition amounting to JPY 927 million and JPY 505 million for the years ended December 31, 2002 and 2003, respectively, were recognized as other income.

- (9) On November 25, 2003, the Company's subsidiary - UMCJ issued its second LSE listed zero coupon convertible bonds with an aggregate principal amount of JPY 21,500 million and the issue price was set at 101.25% of the principal amount. The terms and conditions of the bonds are as follows:

a. Final Redemption

Unless previously converted, purchased and cancelled or redeemed, the bonds will be redeemed on November 25, 2013 at their principal amount.

b. Redemption at the Option of UMCJ

- (a) On or at any time after November 27, 2006, UMCJ may redeem all, but not part, of the bonds if the closing price of the shares on the Japan OTC Market is at least 120% of the conversion price then in effect for at least 20 out of 30 consecutive trading days ending on the trading day immediately prior to the date of the notice of redemption; or if the principal amount that has not been redeemed, repurchased and cancelled or converted is equal to or less than 10% of original aggregate principal amount.
- (b) In case of a corporate split or share exchange/ share transfer, UMCJ may redeem all, but not part, of the bonds on or prior to the effective date of the transaction, provided that UMCJ is not able to ensure that the bondholders have the right to receive shares which they would have received had the conversion rights been exercised prior to the transaction.
- (c) If a change in who controls UMCJ occurs, the bondholders will be able to require UMCJ to redeem their bonds on the date that is 70 days after the change of control date.

c. Conversion Period

At any time on or after January 5, 2004 and on or prior to November 11, 2013.

d. Conversion Price

The conversion price was set at JPY 187,500 per share, subject to adjustment upon the occurrence of certain events set out in the indenture.

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

(10) Repayments of the above bonds in the future years are as follows:

*(assuming the convertible bonds and exchangeable bonds are both paid off upon maturity)*

<u>Bonds repayable in</u>	<u>Amount</u>
	NT\$ 000
2004	16,705,716
2005	2,820,004
2006	10,250,000
2007	13,235,765
2008	17,309,783
2009 and thereafter	14,377,850
<b>Total</b>	<b>74,699,118</b>

## 15. Long-term Loans

	<u>As of December 31,</u>	
	<u>2002</u>	<u>2003</u>
	NT\$ 000	NT\$ 000
Secured long-term loans	13,989,861	2,739,269
Unsecured long-term loans	5,531,250	3,598,875
<b>Total</b>	<b>19,521,111</b>	<b>6,338,144</b>
Less: Current portion	(6,641,599)	(4,217,611)
<b>Net</b>	<b>12,879,512</b>	<b>2,120,533</b>
<b>Interest rates</b>	<b>0.95% ~3.35%</b>	<b>0.95%~2.53%</b>

(1) The above long-term loans will be repaid by installments with the last payment on March 25, 2008. Repayments in the coming years respectively are as follows:

<u>Long-term loans repayable in</u>	<u>Amount</u>
-------------------------------------	---------------

---

	<b>NT\$ 000</b>
2004	4,217,611
2005	1,634,533
2006	194,400
2007	194,400
2008	97,200
<b>Total</b>	<b>6,338,144</b>

---

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

- (2) The long-term loans denominated in US Dollars amounted to US\$100 million and US\$48 million as of December 31, 2002 and 2003, respectively. The long-term loans denominated in Japanese Yen amounted to JPY 18,750 million and JPY 11,250 million as of December 31, 2002 and 2003, respectively.
- (3) Assets pledged as collateral to secure these loans are detailed in Note 24.

## 16. Pension Fund

- (1) Change in benefit obligation during the year:

	As of December 31,	
	2002	2003
	NT\$ 000	NT\$ 000
Projected benefit obligation at beginning of year	(2,637,063)	(3,287,327)
Service cost	(427,082)	(482,185)
Interest cost	(110,230)	(123,168)
Benefits paid	9,379	15,720
(Loss) gain on projected benefit obligation	(119,325)	151,330
Transitional net benefit obligation	(3,006)	
Projected benefit obligation at end of year	(3,287,327)	(3,725,630)

- (2) Change in pension assets during the year:

	As of December 31,	
	2002	2003
	NT\$ 000	NT\$ 000
Fair value of plan assets at beginning of year	824,092	991,058
Actual return on plan assets	16,250	33,312
Contributions from employer	143,477	193,311
Benefits paid	(9,379)	(15,720)
Others	16,618	(5,238)
Fair value of plan assets at end of year	991,058	1,196,723





**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

(3) The funding status of the pension plan is as follows:

	As of December 31,	
	2002	2003
	NT\$ 000	NT\$ 000
Benefit obligation		
Vested benefit obligation	(330,050)	(424,662)
Non-vested benefit obligation	(933,124)	(1,210,526)
Accumulated benefit obligation	(1,263,174)	(1,635,188)
Effect from projected salary increase	(2,024,153)	(2,090,442)
Projected benefit obligation	(3,287,327)	(3,725,630)
Fair value of plan assets	991,058	1,196,723
Funded status	(2,296,269)	(2,528,907)
Unrecognized transitional net benefit obligation	296,565	261,627
Unrecognized loss	160,577	16,244
Adjustment required to recognize minimum liabilities	(63,953)	(41,852)
Accrued pension liabilities per actuarial report	(1,903,080)	(2,292,888)
Over accrual	(127,706)	(17,004)
Accrued pension liabilities recognized in the balance sheet	(2,030,786)	(2,309,892)

(4) The components of the net periodic pension cost are as follows:

	For the year ended December 31,		
	2001	2002	2003
	NT\$ 000	NT\$ 000	NT\$ 000
Service cost	375,812	427,082	482,185
Interest cost	142,885	110,230	123,168
Expected return on plan assets	(38,335)	(30,258)	(26,727)
Amortization of unrecognized transitional net benefit obligation	38,523	39,537	45,927
Amortization of unrecognized pension loss	11,433	6,129	13,784
Net periodic pension cost	530,318	552,720	638,337



**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

The actuarial assumptions underlying are as follows:

	For the year ended December 31,							
	2001		2002			2003		
	The Company	UMCJ	The Company	UMO	UMCJ	The Company	UMO	UMCJ
Discount rate	4.50%	2.00%	4.00%	4.00%	2.00%	3.50%	3.50%	2.00%
Rate of salary increase	6.50%	3.71%	5.50%	6.00%	3.71%	5.00%	5.00%	3.71%
Expected return on plan assets	4.50%	1.00%	3.25%	3.25%	1.00%	2.75%	2.75%	1.00%

## 17. Capital Stock

- (1) As recommended by the board of directors and approved by the shareholders' meeting on May 30, 2001, the Company issued 1,864,243 thousand new shares from the capitalization of retained earnings, of which NT\$17,151 million were stock dividends and NT\$1,491 million were employees' bonus. The effective date of the issuance was July 21, 2001.
- (2) As recommended by the board of directors and approved by the shareholders' meeting on June 3, 2002, the Company issued 2,139,150 thousand new shares from the capitalization of retained earnings, of which NT\$19,680 million were stock dividends and NT\$1,711 million were employees' bonus. The effective date of the issuance was August 11, 2002.
- (3) As of December 31, 2002, 22,000,000 thousand common shares were authorized to be issued and 15,474,846 thousand common shares were issued, each at a par value of NT\$10.
- (4) As recommended by the board of directors and approved by the shareholders' meeting on June 9, 2003, the Company issued 665,898 thousand new shares from the capitalization of retained earnings, of which NT\$6,079 million were stock dividends and NT\$580 million were employees' bonus. The effective date of the issuance was July 21, 2003.
- (5) As of December 31, 2003, 22,000,000 thousand common shares were authorized to be issued and 16,140,744 thousand common shares were issued, each at a par value of NT\$10.
- (6) As of December 31, 2003, the Company has issued 185,805 thousand ADSs, each representing 5 common shares. The number of common shares represented by the ADSs is 929,023 thousand shares. These ADSs have been listed on the New York Stock Exchange.

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

- (7) On September 11, 2002 and October 8, 2003, the Company was authorized by the relevant government authorities to issue Employee Stock Options with a total number of 1 billion and 150 million units, respectively. Each unit entitles an optionee to subscribe to 1 share of the Company's common stock. Settlement upon the exercise of the options will be made through the issuance of new shares by the Company. The exercise price of options was set at the closing price of the Company's common stock on the date of grant. The grant period for the options is 6 years and an optionee may exercise the options in accordance with certain schedules as prescribed by the plan starting 2 years from the date of grant. Detailed information relevant to the Employee Stock Options is disclosed as follows:

<u>Date of grant</u>	<u>Total number of options granted (in thousands)</u>	<u>Total number of options outstanding (in thousands)</u>	<u>Exercise price (in NT\$)</u>
October 7, 2002	939,000	873,534	\$ 19.2
January 3, 2003	61,000	52,170	\$ 21.6
November 26, 2003	57,330	54,960	\$ 30.2

## 18. Treasury Stock

- (1) The Company bought back its own shares from the open market during the years ended December 31, 2001, 2002 and 2003. Details of the treasury stock transactions are as follows:

For the year ended December 31, 2001*(In thousands of shares)*

<u>Purpose</u>	<u>As of January 1, 2001</u>	<u>Increase</u>	<u>Decrease</u>	<u>As of December 31, 2001</u>
For transfer to employees	32,435	4,990		37,425
For conversion of the convertible bonds into shares		129,035		129,035
Total shares	32,435	134,025		166,460

For the year ended December 31, 2002

*(In thousands of shares)*

<b>Purpose</b>	<b>As of January 1, 2002</b>	<b>Increase</b>	<b>Decrease</b>	<b>As of December 31, 2002</b>
For transfer to employees	37,425	49,114		86,539
For conversion of the convertible bonds into shares	129,035	20,693		149,728
<b>Total shares</b>	<b>166,460</b>	<b>69,807</b>		<b>236,267</b>

F-37

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

For the year ended December 31, 2003

*(In thousands of shares)*

<b>Purpose</b>	<b>As of January 1, 2003</b>	<b>Increase</b>	<b>Decrease</b>	<b>As of December 31, 2003</b>
For transfer to employees	86,539	99,195	136,620	49,114
For conversion of the convertible bonds into shares	149,728			149,728
<b>Total shares</b>	<b>236,267</b>	<b>99,195</b>	<b>136,620</b>	<b>198,842</b>

- (2) According to the Securities and Exchange Law of the ROC, total shares of treasury stock shall not exceed 10% of the Company's stock issued. Total purchase amount shall not exceed the sum of the retained earnings, capital reserve-premiums, and realized capital reserve. As such, the maximum number of shares of treasury stock that the Company can hold as of December 31, 2002 and 2003 was 1,547,485 thousand shares and 1,614,074 thousand shares while the ceiling of the amount was NT\$61,102 million and NT\$67,177 million, respectively. As of December 31, 2002 and 2003, the Company held 236,267 thousand shares and 198,842 thousand shares of treasury stock, which amounted to NT\$8,819 million and NT\$7,101 million, respectively.
- (3) Treasury stock shall not be pledged, nor does it entitle voting rights or receive dividends, in compliance with Securities and Exchange Law of the ROC.
- (4) As of December 31, 2002, Hsun Chieh and Fortune held 484,045 thousand shares and 17,633 thousand shares of the Company's stock, with a book value of NT\$23.87 and NT\$9.75 per share, respectively. The average closing price during December 2002 was NT\$23.87.

As of December 31, 2003, Hsun Chieh and Fortune held 503,456 thousand shares and 18,340 thousand shares of the Company's stock, with a book value of NT\$29.32 and NT\$9.37 per share, respectively. The average closing price during December 2003 was NT\$29.32.

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

19. Retained Earnings and Dividend Policies

According to the Company's Articles of Incorporation, current year's earnings, if any, shall be distributed in the following order:

- (1) Payment of all taxes and dues;
- (2) Offset prior years' operation losses;
- (3) Set aside 10% of the remaining amount after deducting items (1) and (2) as a legal reserve;
- (4) Set aside 0.1% of the remaining amount after deducting items (1), (2) and (3) as directors' and supervisors' remuneration; and
- (5) After deducting items (1), (2) and (3) above from the current year's earnings, no less than 5% of the remaining amount together with the prior years' unappropriated earnings is to be allocated as employees' bonus which will be settled through issuance of new Company shares. Employees of the Company's subsidiaries, meeting certain requirements determined by the board of directors, are also eligible for the employees' bonus.
- (6) The distribution of the remaining portion, if any, will be recommended by the board of directors and approved through the shareholders' meeting.

The Company is currently in its growth stage; the policy for dividend distribution should reflect factors such as the current and future investment environment, fund requirements, domestic and international competition and capital budgets; as well as the benefit of shareholders, share bonus equilibrium, and long-term financial planning. The board of directors shall make the distribution proposal annually and present it at the shareholders' meeting. The Company's Articles of Incorporation further provide that at least 50% of the dividends to shareholders, if any, must be paid in the form of stock dividends. Accordingly, no more than 50% of the dividends can be paid in the form of cash.

The appropriation of 2003 retained earnings has not yet been recommended by the board of directors as of the date of the Report of Independent Auditors. Information on the board of directors' recommendation and shareholders' approval can be obtained from the Market Observation Post System on the website of the TSE.



**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

Details of the 2002 employee bonus settlement and directors and supervisors remuneration are as follows:

	<b>For the year ended December 31, 2002</b>		<b>Differences</b>
	<b>As approved by the shareholders meeting</b>	<b>As recommended by the board of directors</b>	
1. Settlement of employees' bonus by issuance of new shares			
a. Number of shares (in thousands)			
b. Amount	57,973	57,973	
c. Percentage on total number of outstanding shares at year end (%)	\$ 579,727	\$ 579,727	
	0.38	0.38	
2. Remuneration paid to directors and supervisors	\$ 5,650	\$ 5,650	
3. Effect on earnings per share before retroactive adjustments			
a. Basic and diluted earnings per share (NTD)	\$ 0.48	\$ 0.48	
b. Pro forma basic and diluted earnings per share taking into consideration employees' bonus and directors' and supervisors' remuneration (NTD)	\$ 0.44	\$ 0.44	

Pursuant to Article 41 of the Securities and Exchange Law of the ROC, a special reserve is set aside from the current net income and prior unappropriated earnings for items that are accounted for as deductions to stockholders' equity such as unrealized loss on long-term investments and cumulative translation adjustments. However, there are the following exceptions for the Company's investees' unrealized loss on long-term investments arising from the merger which was recognized by the Company in proportion to the Company's ownership percentage:

- a. According to the explanatory letter No. 101801 of the Securities and Futures Commission (SFC), if the Company recognizes the investees' capital reserve - excess from the merger in proportion to the ownership percentage, then the special reserve is exempted for the amount originated from the acquisition of the long-term investments.
- b. However, if the Company and its investees transfer a portion of the capital reserve to increase capital, a special reserve equal to the amount of the transfer shall be provided according to the explanatory letter No.101801-1 of the SFC.

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

- c. In accordance with the explanatory letter No.170010 of the SFC applicable to listed companies, when the market value of the Company's stock held by its subsidiaries at year end is lower than the book value, a special reserve shall be provided for in the Company's accounts in proportion to its ownership percentage.

For the 2002 appropriations approved by the shareholders' meeting on June 9, 2003, unrealized loss on long-term investments exempted from the provision of special reserve pursuant to the above regulations amounted to NT\$18,036 million.

## 20. Operating Costs and Expenses

The Group's personnel, depreciation, and amortization expenses are summarized as follows:

	For the year ended December 31,								
	2001			2002			2003		
	Operating costs	Operating expenses	Total	Operating costs	Operating expenses	Total	Operating costs	Operating expenses	Total
	NT\$ 000	NT\$ 000	NT\$ 000	NT\$ 000	NT\$ 000	NT\$ 000	NT\$ 000	NT\$ 000	NT\$ 000
Personnel expenses									
Salaries	4,251,480	2,276,768	6,528,248	5,083,606	2,122,316	7,205,922	6,135,769	2,453,842	8,589,611
Labor and health insurance	394,672	140,628	535,300	405,291	145,184	550,475	459,361	147,940	607,301
Pension	443,603	183,189	626,792	463,178	146,772	609,950	337,911	166,287	504,198
Other personnel expenses	102,392	169,049	271,441	201,463	200,325	401,788	36,791	411,968	448,759
Depreciation	32,939,545	1,450,647	34,390,192	34,895,683	1,671,852	36,567,535	37,390,728	1,842,751	39,233,479
Amortization	383,920	1,325,479	1,709,399	326,379	1,164,565	1,490,944	172,533	1,292,831	1,465,364

The numbers of employees as of December 31, 2002 and 2003 were 10,167 and 10,576, respectively.

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

## 21. Income Tax

- (1) Reconciliation between the income tax expense (benefit) and the income tax calculated on pre-tax financial statement income based on the statutory tax rate is as follows:

	For the year ended December 31,		
	2001	2002	2003
	NT\$ 000	NT\$ 000	NT\$ 000
Income tax on pre-tax (loss) income at statutory tax rate	(1,868,553)	1,830,019	3,467,870
Permanent differences			
Investment loss	300,371	55,445	114,282
Gain on disposal of investments	(558,838)	(1,602,035)	(1,668,153)
Loss carry-forward		(344,763)	
Other permanent differences	77,564	1,157,097	(550,046)
Subtotal	(180,903)	(734,256)	(2,103,917)
Change in investment tax credit	(8,842,305)	(3,999,022)	545,636
Change in valuation allowance against deferred income tax assets			
Investment tax credit	6,861,925	2,957,538	(877,820)
Loss carry-forward		119,769	(157,959)
Subtotal	6,861,925	3,077,307	(1,035,779)
Change in tax rate	(1,142,582)		1,063
Estimated 10% income tax on unappropriated earnings	1,909,261	46,705	126,794
Adjustment of prior year's tax expense	201,480	37,916	(28,547)
Income tax on interest revenue separately taxed	21,688	12,062	6,349
Income tax (benefit) expense	(3,039,989)	270,731	979,469

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

(2) Significant components of deferred income tax assets and liabilities are as follows:

	As of December 31,	
	2002	2003
	NT\$ 000	NT\$ 000
Deferred income tax assets		
Investment tax credit	22,625,846	20,195,499
Loss carry-forward	4,315,169	4,161,872
Pension	469,056	540,886
Allowance on sales returns and discounts	135,077	92,395
Allowance for loss on obsolescence of inventories	101,584	130,412
Compensation interest payable		30,587
Organization cost	509	234
Others	224,112	614,866
<b>Total deferred income tax assets</b>	<b>27,871,353</b>	<b>25,766,751</b>
Valuation allowance	(14,037,226)	(13,034,410)
<b>Net deferred income tax assets</b>	<b>13,834,127</b>	<b>12,732,341</b>
Deferred income tax liabilities		
Unrealized exchange gain	(324,542)	(374,353)
Depreciation	(5,282,085)	(4,893,245)
Others		(26,362)
<b>Total deferred income tax liabilities</b>	<b>(5,606,627)</b>	<b>(5,293,960)</b>
<b>Total net deferred income tax assets</b>	<b>8,227,500</b>	<b>7,438,381</b>
Deferred income tax assets - current	10,699,458	9,242,541
Deferred income tax liabilities - current	(324,542)	(374,353)
Valuation allowance	(7,380,344)	(5,914,810)
<b>Net</b>	<b>2,994,572</b>	<b>2,953,378</b>
Deferred income tax assets - noncurrent	17,171,895	16,524,210
Deferred income tax liabilities - noncurrent	(5,282,085)	(4,919,607)
Valuation allowance	(6,656,882)	(7,119,600)
<b>Net</b>	<b>5,232,928</b>	<b>4,485,003</b>
<b>Total net deferred income tax assets</b>	<b>8,227,500</b>	<b>7,438,381</b>

- (3) The Company's income tax returns for all the fiscal years through 1999 have been assessed and approved by the Tax Authority.

F-43

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

- (4) Pursuant to the Statute for the Establishment and Administration of Science Park of the ROC, the Company was granted several four-year income tax exemption periods with respect to income derived from the expansion of operations. The starting date of the exemption period attributable to the expansion in 1999 and 2000 had not yet been decided by the Company. The income tax exemption for other periods will expire on December 31, 2007.
- (5) The Group earns investment tax credits for the amount invested in production equipment, research and development, employee training, and investments in high technology industry and venture capital.

As of December 31, 2003, the Group's unused investment tax credit was as follows:

Expiration year	Investment tax credits earned	Balance of unused investment tax credits
	NT\$ 000	NT\$ 000
2003	3,967,380	2,248,078
2004	6,515,708	6,515,708
2005	5,195,968	5,131,229
2006	2,498,359	2,498,359
2007	3,802,125	3,802,125
Total	21,979,540	20,195,499

- (6) Under the rules of the Income Tax Law of the ROC, net loss can be carried forward for 5 years. As of December 31, 2003, the unutilized accumulated loss was as follows:

Expiration year	Accumulated loss	Unutilized accumulated loss
	NT\$ 000	NT\$ 000
2006	11,699,805	11,699,805
2007	4,161,930	4,161,930
2008	221,763	221,763
Total	16,083,498	16,083,498

- (7)

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

According to the Income Tax Law of the ROC, any undistributed current earnings, on tax basis of a company derived on or after January 1, 1998, would be subject to an additional 10% corporate income tax if the earnings are not distributed before a specific time. This 10% additional tax on undistributed earnings paid by the company can be used as tax credit by shareholders, including foreign shareholders, against the withholding tax on dividends. In addition, the domestic shareholders can claim a proportionate share in the company's corporate income tax as tax credit against its individual income tax liability effective 1998.

F-44

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

- (8) As of December 31, 2003, the balance of imputation credit account (ICA) was NT\$10 million. The actual creditable ratio for the appropriation of 2001 and 2002 retained earnings was 1.79% and 1.24%, respectively.
- (9) The ending balances of unappropriated earnings as of December 31, 2002 and 2003 were as follows:

	As of December 31,	
	2002	2003
	NT\$ 000	NT\$ 000
Prior to January 1, 1998	64,220	64,220
After January 1, 1998	8,621,627	13,972,602
<b>Total</b>	<b>8,685,847</b>	<b>14,036,822</b>

## 22. Earnings per Share

- (1) The Company held zero coupon convertible bonds and employee stock options as of December 31, 2003, thus has a complex capital structure. The calculation of basic and diluted earnings (loss) per share, for the years ended December 31, 2001, 2002 and 2003, was disclosed as follows:

	For the year ended December 31,		
	2001	2002	2003
	NT\$ 000	NT\$ 000	NT\$ 000
<i>(shares expressed in thousands)</i>			
Net (loss) income	(3,157,302)	7,072,032	14,020,257
Effect of dilution:			
Employee stock options			
Convertible bonds	3,311	59,233	50,954
Adjusted net (loss) income assuming dilution	(3,153,991)	7,131,265	14,071,211
Weighted average of shares outstanding	12,829,615	15,402,328	15,313,315
Effect of dilution:			
Employee stock options		43,420	210,473
Convertible bonds		156,321	140,367
Adjusted weighted average of shares outstanding assuming dilution	12,829,615	15,602,069	15,664,155



Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Retroactively adjusted weighted average of shares outstanding	15,577,359	15,402,328	
	<u>          </u>	<u>          </u>	
Retroactively adjusted weighted average of shares outstanding assuming dilution	15,577,359	15,602,069	
	<u>          </u>	<u>          </u>	
(Loss) earnings per share (in dollars) - basic Net (loss) income	(0.20)	0.46	0.92
	<u>          </u>	<u>          </u>	<u>          </u>
(Loss) earnings per share (in dollars) - diluted Net (loss) income	(0.20)	0.46	0.90
	<u>          </u>	<u>          </u>	<u>          </u>

F-45

**Table of Contents**

## UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

- (2) Pro forma information on earnings as if the Company's unconsolidated subsidiary-Fortune's investment in the Company is not treated as treasury stock is set out as follows:

	2002	
	Basic	Diluted
<i>(shares expressed in thousands)</i>	<b>NT\$ 000</b>	<b>NT\$ 000</b>
Net income	7,072,032	7,131,265
<b>Weighted average of shares outstanding:</b>		
Beginning balance	12,748,327	12,748,327
Stock dividends and employees' bonus at 16.30% in 2002	2,077,977	2,077,977
Stock dividends and employees' bonus at 4.4% in 2003	652,357	652,357
Purchase of 69,807 thousand shares of treasury stock in 2002	(57,716)	(57,716)
Dilutive shares of employee stock options accounted for under treasury stock method		43,420
Dilutive shares issued assuming conversion of bonds		156,321
Ending balance	15,420,945	15,620,686
<b>Earnings per share</b>		
Net income (in dollars)	\$ 0.46	\$ 0.46
2003		
	Basic	Diluted
<i>(shares expressed in thousands)</i>	<b>NT\$ 000</b>	<b>NT\$ 000</b>
Net income	14,020,257	14,071,211
<b>Weighted average of shares outstanding:</b>		
Beginning balance	14,754,533	14,754,533
Stock dividends and employees' bonus at 4.4% in 2003	649,200	649,200
Purchase of 99,195 thousand shares of treasury stock in 2003	(80,243)	(80,243)
Treasury stock transferred to employees of 136,620 thousand shares in 2003	8,234	8,234
Dilutive shares of employee stock options accounted for under treasury stock method		210,473
Dilutive shares issued assuming conversion of bonds		140,367
Ending balance	15,331,724	15,682,564
<b>Earnings per share</b>		
Net income (in dollars)	\$ 0.91	\$ 0.90



**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

## 23. Related Party Transactions

<b>Name of related parties</b>	<b>Relationship</b>
United Foundry Service, Inc.	Equity investee
UMC Capital Corporation	Equity investee
United Microelectronics Corp. (Samoa)	Equity investee
Fortune Venture Capital Corporation	Equity investee
DuPont Photomasks Taiwan Ltd. (DPT)	Equity investee
Holtek Semiconductor Inc. (Holtek)	Equity investee
Integrated Technology Express Inc.	Equity investee
Unimicron Technology Corp.	Equity investee
Applied Component Technology Corp.	Equity investee
Novatek Microelectronics Corp.	Equity investee
Faraday Technology Corp. (Faraday)	Equity investee
Silicon Integrated Systems Corp.	Equity investee
AMIC Technology Corporation	Equity investee
United Microelectronics (Europe) B.V. (UMC-BV) (Note)	Equity investee
MediaTek Incorporation (MediaTek)	The Company is its supervisor
AU Optronics Corp.	The Company is its director and supervisor
Industrial Bank of Taiwan Corp. (IBT)	The Company is its major shareholder
Chiao Tung Bank (Chiao Tung)	The Company is its parent company's director and supervisor
Davicom Semiconductor, Inc.	Subsidiary's equity investee
United Radiotek Incorporation	Subsidiary's equity investee
RiRa Electronics, Inc.	Subsidiary's equity investee
Star Semiconductor Corp.	Subsidiary's equity investee
UCA Technology, Inc.	Subsidiary's equity investee
Thintek Optronics Corp.	Subsidiary's equity investee
Ascend Semiconductor Corp. (liquidated on May 14, 2003)	Subsidiary is its director and supervisor
Averlogic Corporation	Subsidiary is its director and supervisor
Trident Technologies, Inc.	Subsidiary is its director and supervisor
Epitech Corp.	Subsidiary is its director and supervisor
LighTuning Tech, Inc.	Subsidiary is its director and supervisor
Printech International, Inc.	Subsidiary is its director and supervisor

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

<u>Name of related parties</u>	<u>Relationship</u>
Fortune Semiconductor Corporation	Subsidiary is its director
Princeton Technology Corporation	Subsidiary is its director
Silicon 7, Inc.	Subsidiary is its director
Shin-Etsu Handotai Taiwan Co., Ltd. (Shin-Etsu)	Subsidiary is its director
Giga Solution Technology Co., Ltd.	Subsidiary is its director
Pixart Imaging, Inc.	Subsidiary is its director
InComm Technologies Co., Ltd.	Subsidiary is its director
Infineon Technologies, Asia Pacific Pte Ltd. (ITAP)	An affiliate of UMCi

Note: UMC-BV was a related party of the Group in the prior years since the Company's Chairman was a director of UMC-BV. On May 15, 2002, the Company acquired 100% of interest in UMC-BV and included it in consolidation since then.

## Significant Related Party Transactions

*(1) Operating revenues*

	For the year ended December 31,					
	2001		2002		2003	
	Amount	Percentage	Amount	Percentage	Amount	Percentage
	NT\$ 000		NT\$ 000	NT\$ 000		
UMC-BV	6,038,583	9				
MediaTek	3,776,580	6	9,637,752	13	9,298,407	10
Others	5,249,313	7	6,682,023	9	8,614,577	9
<b>Total</b>	<b>15,064,476</b>	<b>22</b>	<b>16,319,775</b>	<b>22</b>	<b>17,912,984</b>	<b>19</b>

The sales to the above related parties were dealt with in the ordinary course of business with the sales price made in the way similar to the sales to third-party customers. The collection period for overseas sales was net 45 days for the related parties and third-party customers, while the terms for domestic sales were month-end 30~60 days for both the related parties and the third-party customers.

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)***(2) Purchases*

	For the year ended December 31,					
	2001		2002		2003	
	Amount	Percentage	Amount	Percentage	Amount	Percentage
	NT\$ 000		NT\$ 000		NT\$ 000	
Shin-Etsu	1,805,200	11	2,273,128	14	2,698,980	14
Others	255,872	2	219,235	1	288,289	2
<b>Total</b>	<b>2,061,072</b>	<b>13</b>	<b>2,492,363</b>	<b>15</b>	<b>2,987,269</b>	<b>16</b>

The purchases from the above related parties were dealt with in the ordinary course of business similar to those from third-party suppliers. The payment terms for purchase from overseas were net 30 days for the related parties and net 30~90 days for the third-party suppliers, respectively, while the terms for domestic purchase were month-end 60~90 days and month-end 30~90 days for the related parties and third-party suppliers, respectively.

*(3) Notes receivable*

	As of December 31,			
	2002		2003	
	Amount	Percentage	Amount	Percentage
	NT\$ 000		NT\$ 000	
Holtek			101,203	92
Others	2,370	3	550	
<b>Total</b>	<b>2,370</b>	<b>3</b>	<b>101,753</b>	<b>92</b>

*(4) Accounts receivable, net*

	As of December 31,			
	2002		2003	
	Amount	Percentage	Amount	Percentage
	NT\$ 000		NT\$ 000	
MediaTek	1,431,362	12	1,713,842	9
Others	1,291,185	11	1,955,802	11

Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Total	2,722,547	23	3,669,644	20
Less: Allowance for sales returns and discounts	(451,009)		(283,420)	
Less: Allowance for doubtful accounts	(70,493)		(100,853)	
Net	2,201,045		3,285,371	

F-49

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)***(5) Other receivables, net*

	As of December 31,			
	2002		2003	
	Amount	Percentage	Amount	Percentage
	NT\$ 000		NT\$ 000	
ITAP	1,910,268	60		
Others			84,384	100
Less: Allowance for doubtful accounts				
<b>Net</b>	<b>1,910,268</b>	<b>60</b>	<b>84,384</b>	<b>100</b>

*(6) Accounts payable*

	As of December 31,			
	2002		2003	
	Amount	Percentage	Amount	Percentage
	NT\$ 000		NT\$ 000	
Shin-Estu	375,116	8	754,354	11
Others	23,565		58,495	1
<b>Total</b>	<b>398,681</b>	<b>8</b>	<b>812,849</b>	<b>12</b>

*(7) Loans*

For the year ended December 31, 2001				
Maximum balance		Ending	Interest	Interest
Amount	Month	balance	rate	expense
NT\$ 000		NT\$ 000		NT\$ 000



Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Chiao Tung	4,091,316	January	1,224,575	4.00%-7.00%	221,359
IBT	998,750	January	998,750	3.94%-6.42%	54,582
			<u>          </u>		<u>          </u>
Total			<u>2,223,325</u>		<u>275,941</u>

F-50

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

	For the year ended December 31, 2002				
	Maximum balance		Ending		Interest
	Amount	Month	balance	Interest rate	expense
	NT\$ 000		NT\$ 000		NT\$ 000
Chiao Tung	1,224,575	January	868,195	2.07%-4.00%	32,717
IBT	998,750	January	783,296	2.89%-3.94%	16,216
<b>Total</b>			<b>1,651,491</b>		<b>48,933</b>

	For the year ended December 31, 2003				
	Maximum balance		Ending		Interest
	Amount	Month	balance	Interest rate	expense
	NT\$ 000		NT\$ 000		NT\$ 000
Chiao Tung	865,796	January	282,557	1.66%-2.68%	15,840
IBT	783,296	January		2.54%-2.89%	2,535
<b>Total</b>			<b>282,557</b>		<b>18,375</b>

*(8) Disposal of property, plant and equipment*

	For the year ended December 31, 2001		
	Item	Amount	Gain
		NT\$ 000	NT\$ 000
Holtek	Building and facilities	173,250	31,468

The Group had no significant disposal of property, plant and equipment to related parties for the years ended December 31, 2002 and 2003.

*(9) Other transactions*

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

The Group has made several other transactions, including service charges, joint development expenses of intellectual property, subcontract expenses and commissions etc., with related parties totaling to approximately NT\$249 million, NT\$363 million, and NT\$493 million for the years ended December 31, 2001, 2002 and 2003, respectively.

As of December 31, 2003, the joint development contracts of intellectual property entered into with Faraday amounted to approximately NT\$1,589 million, and a total amount of NT\$584 million has been paid.

F-51

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

The Company has purchased approximately NT\$1,081 million, NT\$917 million and NT\$524 million of masks from DPT during the years ended December 31, 2001, 2002 and 2003, respectively.

## 24. Assets Pledged as Collateral

As of December 31, 2002 and 2003, the following assets have been pledged as collateral against certain obligations of the Group.

<b>Assets Pledged</b>	<b>As of December 31,</b>		<b>Purpose of pledge</b>
	<b>2002</b>	<b>2003</b>	
	<b>NT\$ 000</b>	<b>NT\$ 000</b>	
Time deposits		178,691	Long-term loans
Land	452,916	452,916	Long-term loans
Buildings	2,533,152	1,201,678	Long-term loans
Machinery and equipment	21,537,463	11,127,841	Long-term loans
Construction in progress and prepayments		1,151,543	Long-term loans
<b>Total</b>	<b>24,523,531</b>	<b>14,112,669</b>	

## 25. Commitments and Contingent Liabilities

- (1) The Company has entered into several patent license agreements and joint development contracts of intellectual property for a total contract amount of approximately NT\$16.3 billion. Royalties and joint development fees for the future years are set out as follows:

<b>For the year ended December 31,</b>	<b>Amount</b>
	<b>NT\$ 000</b>
2004	2,456,799
2005	1,246,867
2006	1,235,956
2007	1,253,240
2008	17,010
<b>Total</b>	<b>6,209,872</b>



**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

- (2) The Group signed several construction contracts for the expansion of its factory space. As of December 31, 2003, these construction contracts amounted to approximately NT\$0.9 billion and the unaccrued portion of the contracts was approximately NT\$0.46 billion.
- (3) Oak Technology, Inc. (Oak) and the Company entered into a settlement agreement on July 31, 1997 concerning a complaint filed with the United States International Trade Commission (ITC) by Oak against the Company and others, alleging unfair trade practices based on alleged patent infringement regarding certain CD-ROM controllers. On October 27, 1997, Oak filed a civil action in a California federal district court, alleging claims for breach of the settlement agreement and fraudulent misrepresentation. The Company has formally denied the material allegations of the Complaint, and asserted counterclaims against Oak for breach of contract, intentional interference with economic advantage and rescission and restitution based on fraudulent concealment and/or mistake. The Company also asserted declaratory judgment claims for invalidity and unenforceability of the relevant Oak patent. On May 2, 2001, the United States Court of Appeals for the Federal Circuit upheld the ITC's findings of no patent infringement and no unfair trade practice arising out of a second ITC case filed by Oak against the Company and others. Based on the Federal Circuit's opinion and on a covenant not to sue filed by Oak, the declaratory judgment patent counterclaims were disclaimed from the district court case. However, in connection with its breach of contract and other claims, Oak seeks damages in excess of US\$750 million. The district court has not yet set dates for dispositive motions or for trial. The Company believes that Oak's claims are meritless, and intends to vigorously defend the suit, and to pursue its counterclaims. As with all litigation, however, the Company cannot predict the outcome with certainty.
- (4) The Group entered into several operating lease contracts for land. These operating leases expire in various years through 2031 and are renewable. Future minimum lease payments under those leases are as follows:

<b>For the year ended December 31,</b>	<b>Amount</b>
	<b>NT\$ 000</b>
2004	190,693
2005	187,552
2006	181,501
2007	168,356
2008	166,047
2009 and thereafter	2,418,921
<b>Total</b>	<b>3,313,070</b>

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

- (5) The Company entered into several wafer-processing contracts with its major customers. According to the contract, the Company shall guarantee processing capacity, while the customer makes deposits to the Company. In case the orders do not meet the capacity guaranteed, the customer needs to pay the Company penalties.
- (6) As a condition precedent to the making of the loan contemplated by a US\$600 million Amortizing Term Loan Facility Agreement among UMCi and several financial institutions, the Company has provided a letter of undertaking to the Citicorp Investment Bank (Singapore) Ltd., the facility agent, to undertake that:
- a. The Company shall continue to own and control, directly or indirectly, a minimum of 40% of the total issued and outstanding shares of UMCi. The Company shall also provide technical support to UMCi and maintain management control with no less than half of the seats of the board of directors.
  - b. The Company shall take necessary actions to ensure UMCi has at least US\$600 million in cash of issued and paid-in capital by December 31, 2003, to make investments necessary to complete the 300mm fab plant on time, and to meet all the obligations under the Facility Agreement.

26. Significant Disaster Loss

None.

27. Significant Subsequent Events

None.

28. Certain comparative amounts have been reclassified to conform to the current year's presentation.

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

## 29. Financial Instruments

## (1) Financial instruments

	As of December 31,			
	2002		2003	
	Book Value	Fair Value	Book Value	Fair Value
	NT\$ 000	NT\$ 000	NT\$ 000	NT\$ 000
<b>Non-derivative financial instruments</b>				
Financial assets				
Cash and cash equivalents	74,902,448	74,902,448	118,771,773	118,771,773
Marketable securities	2,526,365	2,542,241	1,820,328	2,278,195
Notes and accounts receivables	15,246,503	15,246,503	19,183,894	19,183,894
Long-term investments	37,800,496	34,606,778	38,919,249	83,057,858
Financial liabilities				
Short-term loans	1,178,800	1,178,800	1,884,899	1,884,899
Payables	18,014,335	18,014,335	19,563,678	19,563,678
Bonds payable (current portion included)	50,581,483	51,137,649	74,919,629	77,402,957
Long-term loans (current portion included)	19,521,111	19,521,111	6,338,144	6,338,144
Derivative financial instruments				
Other financial assets				
(credit-linked deposits and repackage bonds)	6,853,960	6,853,960	4,166,594	4,166,594
Other financial assets				
(interest rate swaps)			128,539	(18,882)
Other financial assets				
(forward contracts)				

The methods and assumptions used to measure the fair value of financial instruments are as follows:

- a. The book values of short-term financial instruments and other financial assets (credit-linked deposits and repackage bonds) approximate fair values due to their short maturities. Short-term financial instruments include cash and cash equivalents, notes receivable, accounts receivable, short-term loans, and payables.



**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

- b. The fair values of marketable securities and long-term investments are based on the quoted market value. If the market values of marketable securities and long-term investments are unavailable, the net assets values of the investees are used as fair values.
- c. The fair values of bonds payable is determined by the market value. The book values of long-term loans approximate the fair values as the loans bear floating rates.
- d. The fair values of other financial assets (interest rate swaps and forward contracts) are based on the amount the Group expects to get (positive) or to pay (negative) assuming that the contracts are early settled at the balance sheet date.
- (2) The Company and its subsidiary - UMCJ held credit-linked deposits and repackage bonds for the earning of interest income. Details are disclosed as follows:
- a. Principal amount in original currency

**The Company**

<b>Credit-linked deposits and repackage bonds referenced to</b>	<b>As of December 31,</b>	
	<b>2002</b>	<b>2003</b>
Convertible bonds (in NT\$ 000)		310,000
Convertible bonds (in US\$ 000)	155,500	66,200
Convertible bonds (in JPY 000)	2,000,000	2,000,000

**UMCJ**

<b>Repackage bonds referenced to</b>	<b>As of December 31,</b>	
	<b>2002</b>	<b>2003</b>
Convertible bonds (in JPY 000)	3,000,000	3,100,000

- b. Credit risk

The counterparties of the above investments are major international financial institutions. The repayment in full of these investments is subject to the non-occurrence of one or more credit events, which are referenced to the entities' fulfillment of their own obligations as well as repayment of their corporate bonds. Upon the occurrence of one or more of such credit events, the Group may receive nil or less than full amount of these investments. The Group has selected reference entities with high credit ratings to minimize the credit risk.

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

## c. Liquidity risk

Early withdrawal is not allowed for the above investments unless called by the issuer. However, the anticipated liquidity risk is low since most of the investments will be matured within 1 year or are relatively liquid in the secondary market.

## d. Market risk

There is no market risk for the above investments except for the fluctuations in the exchange rates of US Dollars and Japanese Yen to NT Dollars at the balance sheet date and the settlement date.

(3) The relevant information on the derivative financial instruments entered into by the Group is as follows:

- a. The Company utilized interest rate swap agreements to manage its interest rate risks on its floating rate domestic bonds. The details are summarized as follows:

There were no interest rate swap agreements outstanding as of December 31, 2002.

As of December 31, 2003, the Company had the following interest rate swap agreements in effect:

<u>Notional Amount</u>	<u>Contract Period</u>	<u>Interest Rate Received</u>	<u>Interest Rate Paid</u>
NT\$7,500 million	May 20, 2003 to May 20, 2008	4.0% minus USD	1.52%
NT\$7,500 million	May 20, 2003 to May 20, 2010	12-month LIBOR 4.3% minus USD	1.48%
		12-month LIBOR	

No interest was paid or received during the year ended December 31, 2003 as the interest is settled annually starting from May 20, 2004.

- b. In order to hedge the risk resulting from the volatility in exchange rate, the Company's subsidiary UMCi entered into forward contracts. The hedging strategy was developed with an objective to reduce the market risk. The details are summarized as follows:

There were no forward contracts outstanding as of December 31, 2002.

F-57

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

As of December 31, 2003, the Company's subsidiary UMCi had the following forward contract in effect:

<u>Type</u>	<u>Notional Amount</u>	<u>Contract Period</u>
Forward contracts	Buy EUR 66.72 million Sell USD 83.87 million	December 31, 2003 to January 26, 2004

c. Transaction risk

(a) Credit risk

There is no significant credit risk exposure with respect to the above transactions because the counterparties are reputable financial institutions with good global standing.

(b) Liquidity and cash flow risk

The cash flow requirements on the interest rate swap agreements are limited to the net interest payables or receivables arising from the differences in the swap rates. The cash flow requirements on forward contracts are limited to the net difference between the forward and spot rates at the settlement date. Therefore, no significant cash flow risk is anticipated since the working capital is sufficient to meet the cash flow requirements.

(c) Market risk

Interest rate swap agreements and forward contracts are intended for hedging purposes. Gains or losses arising from the fluctuations in interest rates and exchange rates are likely to be offset against the gains or losses from the hedged items. As a result, no significant exposure to market risk is anticipated.

(d) Categories, purposes and strategies

Derivative financial instruments are held for non-trading purposes and the objective is to eliminate most of the market risk and cash flow risk. Interest rate swap agreements are held to hedge the interest rate risk arising from the floating rate corporate bonds. Forward contracts are held to hedge the exchange rate risk arising from the net assets or liabilities denominated in foreign currency.



**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

## 30. Segment Information

## (1) Operations in different industries

The Group operates principally in one industry and the major business is operating as a full service semiconductor foundry.

## (2) Operations in different geographic areas

	For the year ended December 31,					
	2001		2002		2003	
	Net operating revenues	Long-lived assets	Net operating revenues	Long-lived assets	Net Operating revenues	Long-lived assets
	NT\$ 000	NT\$ 000	NT\$ 000	NT\$ 000	NT\$ 000	NT\$ 000
Taiwan	20,205,163	157,851,031	29,735,077	148,650,597	30,608,482	119,837,725
Asia, excluding Taiwan	9,170,626	15,015,062	8,919,717	22,088,806	17,142,176	33,395,966
North America	26,394,408	120,366	28,393,289	66,722	35,960,779	32,072
Europe and others	14,046,602		8,377,273	27,898	11,992,295	21,207
	69,816,799	172,986,459	75,425,356	170,834,023	95,703,732	153,286,970

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

## 31. US GAAP Reconciliation

The accompanying consolidated financial statements have been prepared in conformity with generally accepted accounting principles in the Republic of China (ROC GAAP), which differ in certain material respects from generally accepted accounting principles in the United States (US GAAP). Such differences include methods of consolidation and methods for measuring the amounts shown in the financial statements, as well as additional disclosures required by US GAAP. Material GAAP differences are as follows:

*(1) Compensation*

	<b>For the year ended December 31,</b>		
	<b>2001</b>	<b>2002</b>	<b>2003</b>
	<b>NT\$ 000</b>	<b>NT\$ 000</b>	<b>NT\$ 000</b>
Net income impact of compensation adjustments			
US GAAP adjustments:			
Remuneration to directors and supervisors		(6,365)	(11,903)
Treasury stock transferred to employees			(699,742)
Employees' bonus			
Accrual		(823,702)	(1,838,363)
Adjustment to fair market value	(3,238,647)	(6,592,188)	(433,422)
<b>Total employees' bonus</b>	<b>(3,238,647)</b>	<b>(7,415,890)</b>	<b>(2,271,785)</b>
Allocation to inventories, net of allocations to inventories in prior period and sold in current period	(1,287,138)	73,338	68,436
<b>Total net income adjustment relating to compensation</b>	<b>(4,525,785)</b>	<b>(7,348,917)</b>	<b>(2,914,994)</b>
		<b>As of December 31,</b>	
		<b>2002</b>	<b>2003</b>
		<b>NT\$ 000</b>	<b>NT\$ 000</b>
Stockholders' equity impact of compensation adjustments			
US GAAP adjustments:			
Remuneration to directors and supervisors		(6,365)	(12,618)
Employees' bonus		73,338	141,774
<b>Total stockholders' equity adjustment relating to compensation</b>		<b>66,973</b>	<b>129,156</b>





**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

Remuneration to directors and supervisors - The Company's Articles of Incorporation requires a cash remuneration payment to its directors and supervisors. Under ROC GAAP, such payments are charged directly to retained earnings in the period shareholders approve such payment. Under US GAAP, such cash payments should be recorded as compensation expense in the period when services are rendered.

Treasury stock transferred to employees - During the year, the Company has transferred certain treasury stock to its employees at a predetermined transfer price. Under ROC GAAP, the difference between the cost of the treasury stock and the transfer price was charged to retained earnings. Under US GAAP, the difference between the transfer price and the market price of the underlying stock at the date of transfer was recognized as compensation expense.

Employees' bonus - Certain employees of the Company are entitled to bonuses in accordance with the provisions of the Company's Articles of Incorporation. Employees' bonus is determined as discussed in Note 19. Under ROC GAAP, such bonuses are appropriated from retained earnings in the period that the shareholders' approval is obtained, the amount charged against retained earnings is based on the par value of the common shares issued.

Under US GAAP, employees' bonus expense is initially accrued when services are rendered and both the number of shares to be issued and the price per share are known. When bonuses are approved by the shareholders in the subsequent year, an additional compensation expense is recorded for the difference between the amount initially recorded and the fair market value of shares granted to employees. The difference between US GAAP and ROC GAAP in this area would result in adjustments to net income and shareholders' equity as shown in the above schedules. In addition, there is also a reclassification from retained earnings to capital reserve of NT\$27,367 million, NT\$29,305 million and NT\$34,186 million at December 31, 2001, 2002 and 2003, respectively.

*(2) Equity Investments - Net income variance between US GAAP and ROC GAAP*

The Group'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 US GAAP. The differences between ROC GAAP and US GAAP for the equity investees include accounting for compensation, technological know-how and investment in marketable securities, etc.

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)***(3) Marketable Securities and Long-term Investments*

Under ROC GAAP, marketable securities are carried at the lower of aggregate cost or market value. Under the US Statements of Financial Accounting Standards (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 Group 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 securities 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 stockholders' equity.

The Group holds marketable securities that are mainly classified as trading securities. The portion of trading gains and losses for the years ended December 31, 2001, 2002 and 2003 on trading securities still held at each of the respective balance sheet dates were NT\$19,868, NT\$1,771,439 and NT\$(1,305,269), respectively.

The Group holds long-term investments in equity securities where the Group does not have the ability to exercise significant influence that are classified as available-for-sale securities. Information on sales of available-for-sale equity securities for the years ended December 31, 2001, 2002 and 2003 are as follows:

	Proceeds from sales	Gross realized gains	Gross realized losses
	NT\$ 000	NT\$ 000	NT\$ 000
For the year ended December 31, 2001	2,743,503	1,987,304	137,178
For the year ended December 31, 2002	8,530,551	6,520,197	264
For the year ended December 31, 2003	7,931,116	5,465,928	(92,517)

Information on available-for-sale equity securities still held at each balance sheet date is as follows:

	Fair Value	Total unrealized gains	Total unrealized losses	Net unrealized gains (losses)
	NT\$ 000	NT\$ 000	NT\$ 000	NT\$ 000
As of December 31, 2002	35,127,937	19,322,091	(574,484)	18,747,607
As of December 31, 2003	49,792,187	33,979,754	(792,858)	33,186,896

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

The Group did not transfer any available-for-sale securities to trading securities for the years ended December 31, 2001, 2002 and 2003. The amount of gains reclassified from accumulated other comprehensive income into earnings on available-for-sale securities were NT\$169,049, NT\$5,034,105 and NT\$3,036,738 for the years ended December 31, 2001, 2002 and 2003, respectively.

Under ROC GAAP, if an investor company invests in equity securities that are traded in an open market and uses the cost method for valuation purposes, then an investor company shall recognize losses if evidence suggests that the value of an investment has been impaired and it is unlikely that the stock price will recover. The new cost of the long-term investment is the book value after recognizing the losses. Under US GAAP, for individual securities classified as either available-for-sale or held-to-maturity, an enterprise shall determine whether a decline in fair value below the amortized cost basis is other than temporary. If the decline in fair value is judged to be other than temporary, the cost basis of the individual security shall be written down to fair value as a new cost basis and the amount of the write-down shall be included in earnings. The new cost basis shall not be changed for subsequent recoveries in fair value. Subsequent increases in the fair value of available-for-sale securities shall be included in the other comprehensive income.

The Group has written down NT\$536 million, NT\$1,409 million and NT\$1,866 million under ROC GAAP against certain available-for-sale securities for the years ended December 31, 2001, 2002 and 2003. For US GAAP purposes, the Group further wrote down an additional NT\$3,305 million, NT\$781 million and nil for the years ended December 31, 2001, 2002 and 2003, respectively. Among the NT\$1,409 million and NT\$1,866 million recognized under ROC GAAP for the years ended December 31, 2002 and 2003, NT\$432 million and NT\$781 million, respectively, had already been written down under US GAAP in the previous years, which therefore has led to an increase in net income under US GAAP for the years ended December 31, 2002 and 2003.

Under ROC GAAP, equity investments where an investor company has an ownership interest of at least 20% are generally required to be accounted for under the equity method. However, when there is an evidence indicating that the investor company does not have significant influence over the equity investee, despite an ownership interest of 20% or more, the investor company should not account for the equity investee under equity method. On the contrary, when there is an evidence indicating that the investor company has significant influence over the equity investee's operating and financial policies, despite an ownership interest of less than 20%, the investor company will account for the equity investee under the equity method. Under US GAAP, the Group is required to use the equity method to account for an investment in common stock when the investment in voting stock gives it the ability to exercise significant influence over operating and financial policies of an investee. An investment (direct or indirect) of 20% or more of the voting stock of an investee leads to a presumption that in the absence of evidence to the contrary an investor has the ability to exercise significant influence over an investee.

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

There were no significant differences between ROC GAAP and US GAAP on balance sheets as of December 31, 2002, and on statements of operations for the years ended December 31, 2001 and 2002. Under ROC GAAP, when an investor company's ownership percentage of an investee's outstanding common stock is the highest among shareholders, the investor company is considered to have significant influence over the investee and equity accounting shall be applied, despite an ownership interest of less than 20%. However, under US GAAP, this does not qualify for a relationship of significant influence and hence equity accounting shall not be applied unless the investor holds more than 20% of the voting rights. The difference between US GAAP and ROC GAAP in this area would result in a decrease in investment loss accounted for under the equity method of NT\$465 million and an increase in unrealized loss on available-for-sale securities of NT\$750 million, respectively, for the year ended December 31, 2003.

*(4) Treasury Stock and Gain on Disposal of Treasury Stock*

Under ROC GAAP, when the Group's equity investee sells the Company's stock, it recognizes the gain or loss in its statement of operations. Under US GAAP, the Group's equity in income (loss) of an investee is adjusted to eliminate the Company's proportionate share of any such gains or losses. Further, the Company's stock owned by an investee is proportionately deducted from the investment as treasury stock.

*(5) Technological Know-how*

The Group entered into three joint ventures from 1995 through 1996. Both the Group and the joint venture partners contributed cash to the joint ventures. In addition, the Group contributed technological know-how to the joint ventures for shares of the joint venture companies. Both parties mutually agreed to the value of this transferred technological know-how before the transfer of shares. The technological know-how contributed has not been recognized on the Group's balance sheet, as these were internally generated intangible assets with no carrying value.

Under ROC GAAP, the Group recognized the cash contributed as the initial cost of the investment. The difference between the proportionate share of the net assets in the joint venture and the cash contributed is amortized to income over the estimated useful life of the technological know-how, which is the source of this difference. Further, the joint venture recognized value for the technological know-how as an intangible asset contributed, which is the cause of the difference between the proportionate share of the net assets and the cash contributed.

Under US GAAP, the investor initially records its joint venture investment at cost, representing the amount of cash contributed and/or net book value of non-cash assets contributed. The joint venture normally records cash investments at the amount contributed, non-cash assets at fair value, and intangible assets at the predecessor basis, which is normally zero. The joint venture does not recognize value for the technological know-how contributed, thus causing a difference from ROC GAAP.

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

This practice only applies to entities that are being consolidated or accounted for under the equity method.

*(6) Convertible and Exchangeable Bonds*

Convertible Bonds

When convertible securities are issued, under ROC GAAP, the issuer does not recognize or account for any beneficial conversion feature embedded in the securities. Under US GAAP, as prescribed in the Emerging Issues Task Force (EITF) Topic D-60, as amended by EITF 98-5,

Accounting for the Issuance of Convertible Preferred Stock and Debt Securities with a Non-detachable Conversion Feature, such beneficial conversion features should be recognized and measured by allocating a portion of the proceeds equal to the intrinsic value of that feature to capital reserve. That amount should be calculated at the issuance date as the difference between the conversion price and the fair value of the common stock, multiplied by the number of shares into which the security is convertible (intrinsic value). As a result, a bond discount is recognized by allocating a portion of the proceeds equal to the intrinsic value of that feature to capital reserve. The Group recognized interest expense of NT\$1,274 million from February 1994, the date of issuance of the bonds, to May 1994, the date of first conversion, relating to a NT\$1.5 billion bond. The Group also recognized interest expense of NT\$6,086 million from June 1994, the date of issuance of the bonds, to May 1996, the date of first conversion, relating to an US\$160 million bond.

The Group recognized interest expense of approximately NT\$800 million from May 10, 2000, the date of issuance of the bonds, to June 1, 2000, the date of first conversion, related to its JPY 10 billion bond.

In addition, according to EITF 85-17, the Group recognized imputed interest expense together with compensation interest expense of NT\$570 million and NT\$240 million in total for the years ended December 31, 2002 and 2003, respectively, relating to the US\$302.4 million zero coupon convertible bonds issued on December 12, 2001. Upon the reacquisition of the convertible bonds, the relevant interest expenses accrued in prior periods would be released to gain / loss on reacquisition of bonds accordingly.

When a subsidiary or investee (the Issuer) issues convertible bonds to other parties, including the parent or investor, and bonds are converted into shares of the Issuer, the parent's or investor's ownership in the Issuer may decrease. Also, the parent's or investor's ownership in the Issuer may increase upon conversion. Under ROC GAAP, this decrease or increase is treated as a one-time decrease or increase to capital reserve and /or retained earnings.

Under US GAAP, a decrease in ownership is recognized as a gain or loss in the statement of operations upon the conversion, as long as the value of the proceeds can be objectively determined and the realization of the gain is reasonably assured at the time of conversion. Under US GAAP, for the year ended December 31, 2002 and 2003, approximately NT\$9.5 million and NT\$70 million were reclassified from capital reserve to a gain in the income statement relating to these transactions and nil were reclassified for the year ended December 31, 2001.



---

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

Further under US GAAP, an increase in ownership is treated as a purchase of additional shares and the difference between the total cost of the investment and the proportionate share of the fair value net assets is first allocated to identifiable tangible and intangible assets and the remaining unallocated amounts to goodwill, which was amortized over their respective estimated useful lives up to January 1, 2002. Upon the first adoption of the SFAS No.141, Business Combination and SFAS No.142, Goodwill and Other Intangible Assets by the Group on January 1, 2002, goodwill created from acquisition is no longer to be amortized. Under US GAAP, for the year ended December 31, 2000, the Group capitalized goodwill of NT\$468.3 million related to the conversion of a subsidiary's convertible bond, with NT\$49.4 million and NT\$93.7 million being amortized in the statement of operations for the years ended December 31, 2000 and 2001, respectively, and nil for the subsequent periods. Further, upon conversion of an equity investment's bond, which increased the Group's ownership, the difference of NT\$519 million between the total cost of the investment and proportionate share of the fair value net assets was being amortized over 5 years, which accounted for NT\$54.8 million and NT\$103.9 million for the years ended December 31, 2000 and 2001, respectively. Again, due to the first adoption of SFAS No.141 & 142 on January 1, 2002, no amortization was made since then. Details of the accounting treatment on goodwill are set out in the footnote Adoption of SFAS No.141 & 142 .

The Group has invested in convertible bonds. Under the SFAS No. 133, Accounting for Derivative Instruments and Hedging Activities , an embedded derivative instrument shall be separated from the host contract and accounted for as a derivative instrument pursuant to the statement if a) the economic characteristics and risks of the embedded derivative instrument are not clearly and closely related to the economic characteristics and risks of the host contract, b) the contract that embodies both the embedded derivative instrument and the host contract is not remeasured at fair value with changes in fair value reported in earnings as they occur and c) a separate instrument with the same terms as the embedded derivative instrument would be a derivative instrument subject to the requirements of SFAS No. 133. For an available-for-sale convertible debt securities, the conversion option embedded must be separated from the debt host contract and accounted for as a derivative instrument provided that the conversion option would, as a freestanding instrument, be a derivative instrument subject to the requirement of SFAS No. 133 since the embedded conversion option satisfied the above three criteria. As a result, the embedded option contracts in the convertible bonds with the initial amount of NT\$104 million and NT\$22 million in total, respectively, at date of purchase were separated from the debt host contracts and were accounted for as trading securities reporting at fair value for the years ended December 31, 2002 and 2003. Changes in fair value of such option contracts still held at each of the respective balance sheet dates amounted to NT\$(25) million and NT\$2 million, respectively, which were included in earnings for the year. On the other hand, the debt host contracts with the initial amount of NT\$2,397 million and NT\$378 million in total were classified as available-for-sale securities, with an unrealized gain of NT\$46 million and NT\$7 million reported in other comprehensive income for the years ended December 31, 2002 and 2003, respectively.



---

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**Exchangeable Bonds**

Bonds that are exchangeable into common stock of a third party is an expansion on the concept of convertible bonds.

Under ROC GAAP, when exchangeable bondholders exercise their rights to exchange for the reference shares, the book value of bonds is to be offset with the book value of the investment in the reference shares together with the related stockholders' equity, with the difference recognized as gain or loss on disposal of investments.

Under US GAAP, as prescribed by SFAS No.133 and discussed above, the exchangeable feature within exchangeable bonds is an embedded equity derivative within a debt instrument that satisfies the three criteria which requires it to be bifurcated and separately accounted for. The fair value of the exchangeable option feature of the Group's exchangeable bonds issued in May 2002 and July 2003 were measured as NT\$2,025 million and NT\$1,338 million, respectively, as at the date of issuance, which resulted in a reclassification from the bond value to financial instrument liabilities. As of December 31, 2002 and 2003, the fair value of the options not yet exercised by the bondholders were NT\$273 million and NT\$3,427 million, respectively, resulting in a gain (loss) of NT\$1,752 million and NT\$(1,852) million being recognized for the years ended December 31, 2002 and 2003, respectively.

*(7) Goodwill*

Under ROC GAAP, the fair value of the net assets received is deemed to be the value of the consideration for the acquisition of the remaining interests in United Semiconductor, United Silicon, UTEK Semiconductor and United Integrated Circuits in January 2000. Under US GAAP, the acquisition was accounted for using the purchase method of accounting and the purchase price was determined using the market value of the shares exchanged. The difference between the fair value of the shares exchanged and the fair value of the net assets acquired created goodwill. Goodwill was amortized on a straight-line basis over 10 years. Upon the adoption of SFAS No.141 & 142 on January 1, 2002 by the Group, the goodwill ceased to be amortized and is subject to impairment test only. Please refer to Adoption of SFAS No. 141 and 142 for details.

As of January 1, 2002, the carrying value of the unamortized balance of the goodwill was measured as NT\$98,268 million.

---

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)***(8) Earnings per Share*

Under ROC GAAP, basic earnings per share are calculated by dividing net income by the weighted average number of shares outstanding during the year. Diluted earnings per share are calculated by taking basic earnings per share into consideration plus additional common shares that would have been outstanding if the dilutive share equivalents had been issued. The net income would also be adjusted for the interest and other income or expenses derived from any underlying dilutive share equivalents. The weighted average shares outstanding are adjusted retroactively for stock dividends issued and shares issued for employees' bonus, as described under (1) Compensation above.

Under US GAAP, basic earnings per share are calculated by dividing net income by the weighted average number of shares outstanding during the year. Shares issued for employees' bonus will affect the current year's earnings per share only. Diluted earnings per share are calculated by taking into consideration additional common shares that would have been outstanding if the dilutive share equivalents had been issued. The net income would also be adjusted for the interest and other income or expenses derived from any underlying dilutive share equivalents.

*(9) Tax Effect of US GAAP Adjustments*

Undistributed earnings generated after 1997 are subject to a 10% tax in compliance with the Income Tax Law of the ROC. Under ROC GAAP, the 10% tax on undistributed earnings is recorded as an expense at the time shareholders resolve that its earnings shall be retained. Under US GAAP, the Group would measure its income tax expense, including the tax effects of temporary differences, using the tax rate that includes the tax on undistributed earnings.

*(10) Principles of Consolidation*

Under ROC GAAP, certain majority-owned (above 50%) subsidiaries are not consolidated if they meet specific exclusion rules detailed in the accounting policies footnote. Under US GAAP, consolidation is generally required when one of the companies in a group directly or indirectly has a controlling financial interest in the other companies. The usual condition for controlling financial interest is ownership of a majority of the voting interest and, therefore, as a general rule, ownership by one company, directly or indirectly, of over fifty percent of the outstanding voting shares of another company is a condition pointing towards consolidation. Consolidation of majority-owned subsidiaries is required in the preparation of consolidated financial statements, unless (i) control is considered temporary or (ii) control does not rest with the majority owner. As such, Under US GAAP, the Company consolidates those subsidiaries that are excluded from consolidation under ROC GAAP due to the exclusion rules (Fortune Venture Capital Corporation, UMC Capital Corporation, United Microelectronics Corp. (Samoa), and United Foundry Service, Inc.) The net income and stockholders' equity variances between US GAAP and ROC GAAP for those entities are included in the adjustment for equity investments.

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

*(11) Stock Dividends*

Under ROC GAAP, stock dividends are recorded at a par value with a charge to retained earnings. Under US GAAP, if the ratio of distribution is less than 25 percent of the same class of shares outstanding, the fair value of the shares issued should be charged to retained earnings. The accumulative effect of these dividends would have decreased retained earnings and increased capital reserve for the years ended December 31, 2001, 2002 and 2003, by approximately NT\$187,416 million, NT\$243,546 million, and NT\$251,384 million, respectively.

*(12) Other financial assets*

Interest rate swap

To eliminate the variability of cash flows in the interest payments of its NT\$15 billion variable-rate domestic bonds issued in May to June 2003, the Company entered into interest rate swap agreements with notional amount of NT\$15 billion that effectively convert the floating-rate domestic bonds to a fixed-rate basis over the term of the bonds. Under ROC GAAP, the periodic cash settlement under the interest rate swap is accrued in the statement of operations as an adjustment to interest expense. The net receivable or payable under the interest rate swap is included as other financial assets. Changes in fair value of the interest rate swap, as hedging instrument, are not required to be accounted for as of the balance sheet date.

Under US GAAP, the SFAS No. 133 requires companies to recognize all of its derivative instruments as either assets or liabilities in the statement of financial position at fair value. The accounting for changes in the fair value of a derivative instrument depends on whether it has been designated and qualifies as part of a hedging relationship and further, on the type of hedging relationship. For those derivative instruments that are designated and qualify as hedging instruments, a company must designate the hedging instrument, based upon the exposure being hedged, as a fair value hedge, cash flow hedge or a hedge of a net investment in a foreign operation.

The Company's interest rate swap agreements were designated as cash flow hedges. For derivative instruments that are designated and qualify as a cash flow hedge to hedge the exposure to variability in expected future cash flows that is attributable to a particular risk, the effective portion of the gain or loss on the derivative instrument is reported as other comprehensive income, a component of stockholders' equity, and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. Therefore, to recognize the change in fair value of the interest rate swaps, an amount of NT\$(19) million was included in other comprehensive income under US GAAP for the year ended December 31, 2003.

Credit-linked deposits and repackage bonds

The Group held credit-linked deposits and repackage bonds classified as other financial assets under ROC GAAP as of December 31, 2003. As no early withdrawal is allowed under the deposits or repackage bonds agreements, such financial instruments are included in held-to-maturity securities under US GAAP.



**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

The repayment in full, including any accrued interest, of these deposits and repackage bonds is subject to the non-occurrence of one or more credit events, which are referenced to the entities' fulfillment of their own obligations as well as repayment of their loan or corporate bonds. Upon the occurrence of one or more of such credit events, the Group may receive nil or less than the full amount of these deposits and any payment received may be delayed due to the occurrence of certain events.

Since the credit-linked options were, a) the economic characteristics and risks of the embedded derivative instrument are not clearly and closely related to the economic characteristics and risks of the deposit, b) the contract that embodies both the embedded derivative instrument and the host contract is not remeasured at fair value with changes in fair value reported in earnings as they occur and c) a separate instrument with the same terms as the embedded derivative instrument would be a derivative instrument subject to the requirements of SFAS No. 133, these credit-linked options were bifurcated from such deposits and repackage bonds with the amount of NT\$52 million as of December 31, 2003. The underlying reference entities are summarized as follows:

<b>Principal amount in original currency</b>	<b>Reference entities</b>
30 million in USD	Siliconware Precision Industries Co., Ltd. (Siliconware)
4.2 million in USD	King Yuan Electronics Co., Ltd.
15 million in USD	UMCi Ltd.
5 million in USD	Stark Technology, Inc.
5 million in USD	Fubon Financial Holding Co., Ltd., Siliconware and the Company
5 million in USD	Cathay Financial Holding Co., Ltd.
2 million in USD	Chi Feng Home Fashions Co., Ltd.
5.1 billion in JPY	UMC Japan
100 million in NTD	The Company
210 million in NTD	Siliconware

*(13) Gross Profit and Operating Income*

Inventory loss provision, gain from disposal of property, plant and equipment, and gain from foreign currency exchange were presented below the operating income subtotal in the statement of operations as permitted under ROC GAAP. Under US GAAP, the inventory loss provision is included in the determination of gross profit. Further, the inventory loss provision, gain from disposal of property, plant and equipment, and gain from foreign currency exchange are included in the determination of operating income.

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

*(14) Gain on Disposal of Fixed Assets*

Under ROC GAAP, gains and losses from the disposal of fixed assets are both recognized in the statement of operations, with gains reclassified from retained earnings to capital reserve. However, according to the amendments of the Company Law of ROC, such transfer of gains to capital reserve shall no longer be required effective from January 1, 2001. The accumulated gain transferred in prior years can be transferred back from the capital reserve and be treated as a one-time increase in retained earnings subject to the shareholders' approval. Under US GAAP, the reclassification of the gain from retained earnings is not permitted. As of December 31, 2003, the accumulated gain transferred in prior years by investees that has not been transferred back from capital reserve under ROC GAAP amounted to NT\$1.7 million, which had been transferred under US GAAP.

*(15) Reclassification of Time Deposits*

Under ROC GAAP, cash and cash equivalents include time deposits. Under US GAAP, cash equivalents are short-term, highly liquid investments that are readily convertible to cash with original maturities of 3 months or less. Thus, time deposits with original maturities of more than 3 months are classified as cash equivalents under ROC GAAP but should be included in marketable securities for trading purpose under US GAAP.

*(16) Employee Stock Options*

The Group has elected to follow Accounting Principles Board Opinion No. 25, *Accounting for Stock Issued to Employees* (APB 25) and related interpretations in accounting for its employee stock options because, as discussed below, the alternative fair value accounting provided for under SFAS No. 123, *Accounting for Stock-Based Compensation*, requires use of option valuation models that were not developed for use in valuing employee stock options. Under APB 25, because the exercise price of the Company's employee stock options equals the market price of the underlying stock on the date of grant, no compensation expense is recognized for the Company.

On September 11, 2002 and October 8, 2003, the Company was authorized to issue Employee Stock Options. The total number of options to be granted under these two plans is 1.15 billion units, with each unit entitling the optionee to subscribe to 1 share of the Company's common stock. The grant period for options is 6 years and an optionee may exercise his/her options starting from 2 years after the grant: employees may exercise up to 50% of the options after 2 years, up to 75% after 3 years and up to 100% after 4 years. The total number of option units outstanding as of December 31, 2003 was 980,664 thousand units.

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

Pro forma information regarding net income and earnings per share is required by SFAS No. 123, and has been determined as if the Group had accounted for its employee stock options under the fair value method of that Statement. The fair value for these options was estimated at the date of grant using a Black-Scholes option pricing model with the following weighted-average assumptions for the years ended December 31, 2002 and 2003, respectively: risk-free interest rate of 1.98% and 2.40%; dividend yields of 22.63% and 17.24%; volatility factors of the expected market price of the Company's common stock of 0.54 and 0.52; and a weighted-average expected life of the option of 4.4 years.

The Black-Scholes option valuation model was developed for use in estimating the fair value of traded options which have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions including the expected stock price volatility. Because the Group's employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models do not necessarily provide a reliable single measure of the fair value of its employee stock options.

For purposes of pro forma disclosures, the estimated fair value of the options is amortized to expense over the options' vesting period. The Group's pro forma information follows (in thousands except for earnings per share information):

	<b>For the year ended December 31,</b>			
	<b>2001</b>	<b>2002</b>	<b>2003</b>	
	<b>NT\$ 000</b>	<b>NT\$ 000</b>	<b>NT\$ 000</b>	<b>US\$ 000</b>
Net income, as reported under US GAAP	(23,246,991)	293,653	10,475,911	308,206
Add: Stock-based employee compensation expense included in reported net income, net of related tax effects		5,387	87,291	2,568
Deduct: Total stock-based employee compensation expense determined under fair value based method for all awards, net of related tax effects	(284,663)	(398,583)	(250,082)	(7,358)
<b>Pro forma net income</b>	<b>(23,531,654)</b>	<b>(99,543)</b>	<b>10,313,120</b>	<b>303,416</b>

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

	For the year ended December 31,			
	2001	2002	2003	
Basic earnings (loss) per share (in dollars):				
- as reported	(1.52)	0.02	0.69	0.02
- pro forma	(1.54)	(0.01)	0.67	0.02
Diluted earnings (loss) per shares (in dollars)				
- as reported	(1.52)	0.02	0.67	0.02
- pro forma	(1.54)	(0.01)	0.66	0.02

The pro forma net income effect for the periods prior to September 2002 is mainly attributable to the employee stock options issued by a subsidiary of the Company.

A summary of the Company's stock option activity, and related information for the years ended December 31, 2002 and 2003 follows:

	For the year ended December 31,			
	2002		2003	
	Options (in thousands)	Weighted-Average Exercise Price NT\$	Options (in thousands)	Weighted-Average Exercise Price NT\$
Outstanding-beginning of year			928,059	19.2
Granted	939,000	19.2	118,330	25.8
Exercised				
Forfeited	(10,941)	19.2	(65,725)	19.9
Outstanding-end of year	928,059	19.2	980,664	19.9
Exercisable at end of year				
Weighted-average fair value of options granted during the year	NT\$ 1.07		NT\$ 3.01	



Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Exercise prices for options outstanding as of December 31, 2003 is ranged from NT\$19.2 to NT\$30.2. The weighted-average remaining contractual life of those options is 4.8 years.

F-73

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

## Reconciliation of Consolidated Net Income

	For the year ended December 31,			
	2001	2002	2003	
	NT\$ 000	NT\$ 000	NT\$ 000	US\$ 000
Net (loss) income, ROC GAAP	(3,157,302)	7,072,032	14,020,257	412,482
US GAAP adjustments:				
(1) Compensation	(4,525,785)	(7,348,917)	(2,914,994)	(85,760)
(2) Equity investments:				
(1) Compensation	(1,488,490)	(471,136)	(421,133)	(12,390)
(3) Marketable securities	45,989	(64,049)	6,429	189
(4) Treasury stock	(10,557)			
(5) Technological know-how	22,928	22,527	21,664	637
Others	(356,933)	(85,114)	(138,745)	(4,082)
(3) Investment income	315,737	30,206	504,386	14,839
(3) Difference in application of equity accounting			464,555	13,667
(3) Impairment loss in marketable securities	(3,304,929)	(348,906)	1,477,618	43,472
(6) Adjustments due to change in interest of investee companies	795,851	449,365	(278,721)	(8,200)
(6) Embedded derivatives in exchangeable bonds		1,752,039	(1,852,268)	(54,494)
(6) Convertible/Exchangeable bonds		(691,394)	(725,225)	(21,336)
(6) Gain on reacquisition of bonds			106,416	3,131
(7) Consolidated goodwill amortization	(12,283,500)			
(9) Income tax effect	700,000	(23,000)	242,000	7,120
(12) Credit-linked deposits / repackage bonds			(36,328)	(1,069)
Net (loss) income, US GAAP	(23,246,991)	293,653	10,475,911	308,206
(8) Basic (loss) earnings per share under US GAAP (in dollars)	(1.52)	0.02	0.69	0.02
(8) Diluted (loss) earnings per share under US GAAP (in dollars)	(1.52)	0.02	0.67	0.02
Weighted-average number of shares outstanding-basic (in thousands)	15,259,612	15,242,922	15,282,189	
Weighted-average number of shares outstanding-diluted (in thousands)	15,259,612	15,319,828	15,639,700	

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

## Reconciliation of Other Comprehensive Income

	For the year ended December 31,			
	2001	2002	2003	
	NT\$ 000	NT\$ 000	NT\$ 000	US\$ 000
Other comprehensive (loss) income, ROC GAAP	(631,401)	(620,397)	823,013	24,213
(3) Marketable securities-available for sale	40,750,908	20,147,099	33,356,195	981,353
(12) Interest rate swaps			(18,882)	(556)
Translation adjustments	59,085	(478)	1,748	52
Other comprehensive income, US GAAP	40,178,592	19,526,224	34,162,074	1,005,062

## Reconciliation of Gross Profits

	For the year ended December 31,			
	2001	2002	2003	
	NT\$ 000	NT\$ 000	NT\$ 000	US\$ 000
Gross profit, ROC GAAP	9,248,890	12,538,054	21,765,919	640,362
(1) Compensation	(3,434,607)	(5,415,162)	(2,194,222)	(64,555)
(13) Inventory loss provision	(1,529,823)	(955,074)	(1,443,565)	(42,470)
Consolidation of unconsolidated subsidiaries	(136,676)		102,382	3,012
Gross profit, US GAAP	4,147,784	6,167,818	18,230,514	536,349

## Reconciliation of Operating (Loss) Income

	For the year ended December 31,			
	2001	2002	2003	
	NT\$ 000	NT\$ 000	NT\$ 000	US\$ 000
Operating (loss) income, ROC GAAP	(6,412,253)	112,258	9,739,927	286,553
(1) Compensation	(4,525,785)	(7,348,917)	(2,914,994)	(85,760)
(7) Consolidated goodwill amortization	(12,377,169)			
(13) Inventory loss provision	(1,529,823)	(955,074)	(1,443,565)	(42,470)

Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

(14) Gain on disposal of property, plant and equipment	(45,523)	14,403	46,268	1,361
(13) Foreign currency exchange gain	664,794	(104,243)	171,973	5,059
Consolidation of unconsolidated subsidiaries	2,480	(24,890)	(40,931)	(1,204)
	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
Operating (loss) income, US GAAP	(24,223,279)	(8,306,463)	5,558,678	163,539
	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>

F-75

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

## Reconciliation of Consolidated Stockholders' Equity

	As of December 31,		
	2002	2003	
	NT\$ 000	NT\$ 000	US\$ 000
Total stockholders' equity, ROC GAAP	217,424,485	232,233,046	6,832,393
(1) Compensation	66,973	129,156	3,800
(2) Equity investments:			
(1) Compensation	(127,980)	(150,524)	(4,428)
(3) Marketable securities - trading	24,788	31,563	928
(3) Marketable securities - available for sale	1,560,602	951,500	27,994
(5) Technological know-how	(33,867)	(14,972)	(440)
Translation adjustments	(464)	1,042	30
Others	(455,226)	(344,210)	(10,127)
(3) Change in fair value of marketable securities	18,617,203	32,968,417	969,945
(3) Difference in application of equity accounting		396,777	11,673
(3) Impairment loss on marketable securities	(3,653,835)	(2,176,217)	(64,025)
(4) Treasury stock	(8,024)	(3,372)	(99)
(6) Adjustments due to change in interest of investee companies	1,604,517	1,652,828	48,627
(6) Convertible / Exchangeable bonds	(691,394)	(1,310,203)	(38,547)
(6) Embedded derivatives in exchangeable bonds	1,752,039	(100,229)	(2,949)
(7) Unamortized goodwill due to acquisition	98,268,000	98,268,000	2,891,086
(9) Income tax effect	(323,000)	(81,000)	(2,383)
(12) Credit-linked deposits / repackage bonds		(36,328)	(1,069)
(12) Interest rate swaps		(18,882)	(556)
Stockholders' equity, US GAAP	334,024,817	362,396,392	10,661,853

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

Movements in Stockholders' Equity in Accordance with US GAAP

	For the year ended December 31,			
	2001	2002	2003	
	NT\$ 000	NT\$ 000	NT\$ 000	US\$ 000
Balance at January 1,	326,985,321	349,492,233	334,024,817	9,827,150
(1) Compensation	6,668,317	7,415,890	2,971,527	87,423
(2) Adjustment of capital reserve and retained earnings accounted for under the equity method	1,395,559	197,989	535,183	15,745
(3) Change in fair value of marketable securities - the Company	41,167,526	(20,936,211)	13,846,828	407,380
(3) Change in fair value of marketable securities - equity investees	1,152,094	(545,915)	620,652	18,260
Adjustment due to change in ownership of investee companies	(344,213)	20,981	(1,403,074)	(41,279)
(4) Treasury stock	(4,599,643)	(2,743,561)	1,156,178	34,015
(4) Capital reserve from gain on disposal of treasury stock	296,018			
Cumulative translation adjustment on foreign long-term investment	(128,841)	829,758	187,252	5,509
Shares issued for American Depositary Shares	147,086			
Interest rate swaps			(18,882)	(556)
Net (loss) income	(23,246,991)	293,653	10,475,911	308,206
Balance at end of year	349,492,233	334,024,817	362,396,392	10,661,853

Summarized US GAAP balance sheet and statement of operations information is presented below:

	As of December 31,		
	2002	2003	
	NT\$ 000	NT\$ 000	US\$ 000
Current assets	102,492,091	152,900,376	4,498,393
Noncurrent assets	340,152,950	333,459,239	9,810,510
Current liabilities	29,987,400	48,344,286	1,422,309
Noncurrent liabilities	62,608,692	60,580,688	1,782,309
Minority interests	16,024,132	15,038,249	442,432

	For the year ended December 31,			
	2001	2002	2003	
	NT\$ 000	NT\$ 000	NT\$ 000	US\$ 000
Net operating revenues	69,816,030	75,425,356	95,703,732	2,815,644
Cost of goods sold	(65,668,246)	(69,257,538)	(77,473,218)	(2,279,295)

Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

Operating (loss) income	(24,223,279)	(8,306,463)	5,558,678	163,539
Net (loss) income	(23,246,991)	293,653	10,475,911	308,206

F-77

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

A reconciliation of the significant balance sheet accounts under ROC GAAP to the amounts determined under US GAAP is as follows:

	As of December 31,		
	2002	2003	
	NT\$ 000	NT\$ 000	US\$ 000
<b>Cash and Cash Equivalents:</b>			
As reported under ROC GAAP	74,902,448	118,771,773	3,494,315
Consolidation of unconsolidated subsidiaries	864,733	847,185	24,925
Reclassification to marketable securities	(21,548,110)	(30,422,651)	(895,047)
<b>As adjusted under US GAAP</b>	<b>54,219,071</b>	<b>89,196,307</b>	<b>2,624,193</b>
<b>Marketable Securities, trading:</b>			
Reported as marketable securities under ROC GAAP	2,526,365	1,820,328	53,555
Reclassification from cash & cash equivalents	21,548,110	30,422,651	895,047
Reclassification to marketable securities, available-for-sale	(2,397,448)	(21,198)	(624)
Credit-linked options		52,435	1,543
Change in fair value of marketable securities	50,074	550,014	16,182
<b>As adjusted under US GAAP</b>	<b>21,727,101</b>	<b>32,824,230</b>	<b>965,703</b>
<b>Represented by:</b>			
Trading securities-current	20,680,374	32,147,383	945,790
Trading securities-noncurrent	1,046,727	676,847	19,913
	<b>21,727,101</b>	<b>32,824,230</b>	<b>965,703</b>

	As of December 31,		
	2002	2003	
	NT\$ 000	NT\$ 000	US\$ 000
<b>Other Financial Assets, Current:</b>			
As reported under ROC GAAP	5,980,960	2,446,603	71,980
Reclassification to marketable securities, held to maturity	(5,980,960)	(2,318,064)	(68,198)
Interest rate swaps		(18,882)	(556)
<b>As adjusted under US GAAP</b>		<b>109,657</b>	<b>3,226</b>



**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

	As of December 31,		
	2002	2003	
	NT\$ 000	NT\$ 000	US\$ 000
<b>Long-term Investments:</b>			
As reported under ROC GAAP	37,800,496	38,919,249	1,145,020
Consolidation of unconsolidated subsidiaries	(833,683)	(770,610)	(22,672)
Equity investments compensation	(127,980)	(150,524)	(4,428)
Change in fair value of marketable securities	18,567,129	32,418,403	953,763
Impairment loss in marketable securities	(3,653,835)	(2,176,217)	(64,025)
Treasury stock	(8,024)	(3,372)	(99)
Reclassification from ROC GAAP marketable securities	2,397,448	21,198	624
Difference in application of equity accounting		396,777	11,673
Equity investments	2,375,037	1,995,468	58,707
<b>As adjusted under US GAAP</b>	<b>56,516,588</b>	<b>70,650,372</b>	<b>2,078,563</b>
<b>Marketable Securities, held-to-maturity:</b>			
As reported under ROC GAAP			
Reclassification from other financial assets	6,853,960	4,166,594	122,583
<b>As adjusted under US GAAP</b>	<b>6,853,960</b>	<b>4,166,594</b>	<b>122,583</b>
<b>Other Financial Assets, Noncurrent:</b>			
As reported under ROC GAAP	873,000	1,848,530	54,385
Reclassification to marketable securities, held to maturity	(873,000)	(1,848,530)	(54,385)
<b>As adjusted under US GAAP</b>			

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

	As of December 31,		
	2002	2003	
	NT\$ 000	NT\$ 000	US\$ 000
<b>Other Assets:</b>			
As reported under ROC GAAP	1,558,655	2,333,991	68,667
Consolidation of unconsolidated subsidiaries	1,184	1,649	49
<b>As adjusted under US GAAP</b>	<b>1,559,839</b>	<b>2,335,640</b>	<b>68,716</b>
<b>Goodwill:</b>			
As reported under ROC GAAP			
Goodwill upon conversion of convertible bonds	325,302	325,302	9,570
Goodwill due to acquisition	98,268,000	98,268,000	2,891,086
<b>As adjusted under US GAAP</b>	<b>98,593,302</b>	<b>98,593,302</b>	<b>2,900,656</b>
<b>Accrued Expenses:</b>			
As reported under ROC GAAP	4,032,474	5,213,758	153,391
Consolidation of unconsolidated subsidiaries	1,575	3,438	101
Accrued interest for convertible bonds	490,545	745,261	21,926
Release from reacquisition of bonds		(106,416)	(3,131)
Compensation	6,365	12,618	371
<b>As adjusted under US GAAP</b>	<b>4,530,959</b>	<b>5,868,659</b>	<b>172,658</b>
<b>Financial Instrument Liabilities:</b>			
As reported under ROC GAAP			
Bifurcated exchangeable feature in exchangeable bonds	273,221	3,426,698	100,815
<b>As adjusted under US GAAP</b>	<b>273,221</b>	<b>3,426,698</b>	<b>100,815</b>
<b>Minority Interests:</b>			
As reported under ROC GAAP	16,023,886	15,078,024	443,602
Consolidation of unconsolidated subsidiaries	319	50	1
Others	(73)	(39,887)	(1,173)
<b>As adjusted under US GAAP</b>	<b>16,024,132</b>	<b>15,038,187</b>	<b>442,430</b>

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)****Cash Flows Information**

	For the year ended December 31,			
	2001	2002	2003	
	NT\$ 000	NT\$ 000	NT\$ 000	US\$ 000
Cash flows from operating activities, ROC GAAP	40,187,493	30,526,954	49,624,987	1,459,988
Remuneration paid to directors and supervisors	(433,039)		(5,650)	(166)
Difference due to principles in consolidation	31,012	(20,765)	(76,626)	(2,255)
Cash flows from operating activities, US GAAP	39,785,466	30,506,189	49,542,711	1,457,567
Cash flows from investing activities, ROC GAAP	(43,257,044)	(36,438,724)	(24,114,432)	(709,457)
Net effect of time deposits reclassified to marketable securities	(17,431,532)	(1,905,493)	(8,874,541)	(261,093)
Difference due to principles in consolidation	429,379	309,704	65,582	1,930
Cash flows from investing activities, US GAAP	(60,259,197)	(38,034,513)	(32,923,391)	(968,620)
Cash flows from financing activities, ROC GAAP	18,184,354	3,162,286	17,581,150	517,245
Remuneration paid to directors and supervisors	433,039		5,650	166
Cash flows from financing activities, US GAAP	18,617,393	3,162,286	17,586,800	517,411
Foreign exchange effect, ROC GAAP	(680,808)	747,864	777,620	22,878
Difference due to principles in consolidation	12,762	11,344	(6,504)	(191)
Foreign exchange effect, US GAAP	(668,046)	759,208	771,116	22,687
Net increase in cash and cash equivalents, ROC GAAP	14,433,995	(2,001,620)	43,869,325	1,290,654
Net effect of time deposits reclassified to marketable securities	(17,431,532)	(1,905,493)	(8,874,541)	(261,093)
Difference due to principles in consolidation	473,153	300,283	(17,548)	(516)
Net (decrease) increase in cash and cash equivalents, US GAAP	(2,524,384)	(3,606,830)	34,977,236	1,029,045
Cash and cash equivalents at beginning of year, US GAAP	60,350,285	57,825,901	54,219,071	1,595,148
Cash and cash equivalents at end of year, US GAAP	57,825,901	54,219,071	89,196,307	2,624,193

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**Concentration of credit risk**

The Group designs, develops, manufactures and markets a variety of semiconductor products. Financial instruments that potentially subject the Group to significant concentrations of credit risk consist principally of cash and cash equivalents and trade accounts and notes receivable. The Group limits its exposure to credit loss by depositing its cash and cash equivalents with high credit quality financial institutions. The Group's revenues and trade accounts and notes receivable are derived primarily from the sale of production foundry wafers, including memory and logic products and wafers. For the years ended December 31, 2002 and 2003, the Group distributes its products on a global basis but mainly to customers in North America (37.64% and 37.58%, respectively), Asia (51.25% and 48.89%, respectively), and Europe and others (11.11% and 12.53%, respectively). The Group's sales are primarily denominated in currencies other than NT Dollars, primarily US Dollars. Two customers revenue represented 12% and 13%, respectively, of the consolidated revenue for the year ended December 31, 2002 and one customer's revenue represented 10% of the consolidated revenue for the year ended December 31, 2003. The Group routinely assesses the financial strength of substantially all customers. The Group also requires collateral for certain sales to mitigate the credit risk.

**Adoption of SFAS No.141 and 142**

In June 2001, the Financial Accounting Standard Board (FASB) issued Statements of Financial Accounting Standards (SFAS) No. 141, Business Combinations, and SFAS No. 142, Goodwill and Other Intangible Assets. SFAS No. 141 requires that the purchase method of accounting be used for all business combinations initiated after June 30, 2001 as well as all purchase method business combinations completed after June 30, 2001. SFAS No. 141 also specifies criteria intangible assets acquired in a purchase method business combination must meet to be recognized and reported apart from goodwill, noting that any purchase price allocable to an assembled workforce may not be accounted for separately. SFAS No. 142 requires that goodwill and intangible assets with indefinite useful lives should no longer be amortized, but instead be tested for impairment at least annually in accordance with the provisions of SFAS No. 142. SFAS No. 142 also requires that intangible assets with estimable useful lives be amortized over their respective estimated useful lives to their estimated residual values, and reviewed for impairment in accordance with SFAS No. 144, Accounting for the Impairment or Disposal of Long-lived Assets.

**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

The Group adopted SFAS No.141 & 142 on January 1, 2002. Upon adoption, the Group did not identify additional intangible assets related to previous acquisitions and the goodwill created from the acquisition of the remaining interests in United Semiconductor, United Silicon, UTEK Semiconductor and United Integrated Circuits prior to June 30, 2001 as well as those created from the acquisition of an equity investee were no longer to be amortized but instead subject to impairment test annually or when indication of impairment is noted. Similarly, the goodwill created upon conversion of convertible bonds ceased to be amortized. The annual goodwill impairment tests performed by the Group did not result in the recognition of any impairment loss as of December 31, 2002 and 2003, respectively.

As of January 1, 2002, the unamortized goodwill amounted to NT\$98,593 million, and unamortized equity-method goodwill (included in long-term investment) amounted to NT\$526 million. The information on net income exclusive of amortization expense related to the abovementioned goodwill is presented as follows:

	<b>For the year ended December 31,</b>			
	<b>2001</b>	<b>2002</b>	<b>2003</b>	
	<b>NT\$ 000</b>	<b>NT\$ 000</b>	<b>NT\$ 000</b>	<b>US\$ 000</b>
Net income (loss) as reported under US GAAP	(23,246,991)	293,653	10,475,911	308,206
Add back: amortization of goodwill	12,377,169			
Add back: amortization of equity-method goodwill	180,811			
<b>Adjusted net income</b>	<b>(10,689,011)</b>	<b>293,653</b>	<b>10,475,911</b>	<b>308,206</b>

	<b>For the year ended December 31,</b>			
	<b>2001</b>	<b>2002</b>	<b>2003</b>	
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>US\$</b>
<b>Basic earnings per share (in dollars):</b>				
Net income (loss) as reported under US GAAP	(1.52)	0.02	0.69	0.02
Goodwill amortization	0.81			
Equity-method goodwill amortization	0.01			
<b>Adjusted net income</b>	<b>(0.70)</b>	<b>0.02</b>	<b>0.69</b>	<b>0.02</b>
<b>Diluted earnings per share (in dollars):</b>				
Net income (loss) as reported under US GAAP	(1.52)	0.02	0.67	0.02
Goodwill amortization	0.81			
Equity-method goodwill amortization	0.01			
<b>Adjusted net income</b>	<b>(0.70)</b>	<b>0.02</b>	<b>0.67</b>	<b>0.02</b>



**Table of Contents****UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

On May 15, 2002, the Company acquired 100% of the interest in UMC-BV with a cash consideration of approximately NT\$187 million. UMC-BV is principally engaged in the business of sales of semiconductor products and providing related foundry services. The Company expected to develop UMC-BV into its major communication channel on sales to Europe.

The estimated fair value of the assets acquired and liabilities assumed at the date of acquisition are summarized as follows:

	<u>At May 15, 2002</u>	
	<u>NT\$ 000</u>	<u>US\$ 000</u>
Cash and cash equivalents	121,564	3,577
Other current assets	190,218	5,596
Property, plant and equipment	4,348	128
<b>Total assets acquired</b>	<b>316,130</b>	<b>9,301</b>
Current liabilities	128,578	3,783
Long-term debt		
<b>Total liabilities assumed</b>	<b>128,578</b>	<b>3,783</b>
<b>Net assets acquired</b>	<b>187,552</b>	<b>5,518</b>
<b>Consideration paid</b>	<b>187,552</b>	<b>5,518</b>

**Adoption of SFAS No. 143, 146, 149 and FIN 45**

In June 2001, the FASB issued SFAS No. 143, *Accounting for Asset Retirement Obligations*, which addresses financial accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated asset retirement costs. The standard applies to legal obligations associated with the retirement of long-lived assets that result from the acquisition, construction, development and (or) normal use of the asset.

SFAS No. 143 requires that the fair value of a liability for an asset retirement obligation be recognized in the period in which it is incurred if a reasonable estimate of fair value can be made. The fair value of the liability is added to the carrying amount of the associated asset and this additional carrying amount is depreciated over the life of the asset. The liability is accreted at the end of each period through charges to operating expense. If the obligation is settled for other than the carrying amount of the liability, the Group will recognize a gain or loss on settlement.





**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

In June 2002, the FASB issued SFAS No.146 *Accounting for Costs Associated with Exit or Disposal Activities* . The Statement represents the second and final phase of the FASB's project on accounting for the impairment or disposal of long lived assets and for obligations associated with exit or disposal activities. The adoption of SFAS No. 143 and SFAS No. 146 in January 2003 did not have any material effect on the Group's financial position, results of operations, and cash flows.

In November 2002, the FASB issued Interpretation No.45, *Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others* (FIN 45). FIN 45 requires certain guarantees to be recorded at fair value, which is different from the general current practice of recording a liability only when a loss is probable and reasonably estimable, as those terms are defined in SFAS No.5, *Accounting for Contingencies*. FIN 45 also requires a guarantor to make significant new disclosures for virtually all guarantees even if the likelihood of the guarantor's having to make payments under the guarantee is remote. The disclosure requirements of FIN 45 are effective for financial statements of interim or annual periods ending after December 15, 2002 and 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. As of December 31, 2003, except for guarantee options in credit-linked deposits and repackage bonds, which the Group has bifurcated and fair valued, there is no other guarantees issued or modified by the Group after December 31, 2002.

In April 2003, the FASB issued SFAS No. 149, *Amendment of Statement 133 on Derivative Instruments and Hedging Activities* . This Statement amends and clarifies financial accounting and reporting for derivative instruments, including certain derivative instruments embedded in other contracts and for hedging activities under SFAS No. 133. SFAS No. 149 is effective for contracts entered into or modified after June 30, 2003. For those provisions related to SFAS No. 133 that have been effective prior to June 15, 2003, they should continue to be applied in accordance with their respective effective dates. The adoption of SFAS No.149 did not have any material impact on the Group's consolidated financial statements.

**Table of Contents**

**UNITED MICROELECTRONICS CORPORATION AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**New Accounting Pronouncements**

Issued in January and revised in December 2003, the FASB's Interpretation No. 46, Consolidation of Variable Interest Entities (FIN46) requires an investor with a majority of the variable interests in a variable interest entity (VIE) to consolidate the entity and also requires majority and significant variable interest investors to provide certain disclosures. A VIE is an entity in which the equity investors do not have a controlling interest or the equity investment at risk is insufficient to finance the entity's activities without receiving additional subordinated financial support from the other parties. Under the new guidance, special effective date provisions apply to enterprises that have fully or partially applied FIN 46 prior to issuance of the revised interpretation. Otherwise, application of FIN 46 is required in financial statements of public entities that have interests in structures that are commonly referred to as special-purpose entities ending after December 15, 2003. Application by public entities for all other types of variable interest entities is required in financial statements for periods ending after March 15, 2004. The Group has not identified any VIE that must be consolidated, which we did not consolidate in the past, and did not anticipate any material effect on the Group's consolidated financial statements for the year ended December 31, 2003.

In May 2003, the FASB issued SFAS Statement No. 150, Accounting for Certain Financial Instruments with Characteristics of both Liabilities and Equity. This Statement establishes standards for how an issuer classifies and measures certain financial instruments with characteristics of both liabilities and equity. It requires that an issuer classify a financial instrument that is within its scope as a liability (or an asset in some circumstances). SFAS No. 150 is effective for financial instruments entered into or modified after May 31, 2003, and otherwise is effective at the beginning of the first interim period beginning after June 15, 2003. The adoption of SFAS No.150 is not expected to have a material effect on earnings or financial position of the Group.

In November 2002, the EITF reached a consensus on EITF No. 00-21, Revenue Arrangements with Multiple Deliverables. EITF No. 00-21 provides guidance on when and how to separate elements of an arrangement that may involve the delivery or performance of multiple products, services, and/or rights to use assets into separate units of accounting. This consensus, which was modified in May 2003, is applicable to arrangements entered into for reporting periods beginning after June 15, 2003. The Group does not expect a material impact on its financial statements resulting from the adoption of the issue.

**Table of Contents****EXHIBIT INDEX**

<b>Exhibit</b>	
<b>Number</b>	<b>Description of Exhibits</b>
*1.1	Articles of Incorporation of the Company as last amended on June 1, 2004 (English Translation)
2.1	Form of Deposit Agreement among the Company, and Holders and Beneficial Owners of American Depositary Shares issued thereunder, including the form of American Depositary Shares (1)
4.1	Lease Agreement with Hsinchu Science Park Administration in relation to government-owned land located at Hsinchu Science Park, Ko-Kuan Section, No. 20-22, Hsinchu, Taiwan, ROC, the site of Fab 6A (in Chinese with English summary translation) (2)
4.2	Lease Agreement with Hsinchu Science Park Administration in relation to government-owned land located at Hsinchu Science Park, third section of first phase, Hsinchu, Taiwan, ROC, the site of Fab 8AB and United Tower (in Chinese with English summary translation) (3)
4.3	Lease Agreement with Hsinchu Science Park Administration in relation to government-owned land located at Hsinchu Science Park, third section of first phase, Hsinchu, Taiwan, ROC, the site of Fab 8C (in Chinese with English summary translation) (4)
4.4	Lease Agreement with Hsinchu Science Park Administration in relation to government-owned land located at Hsinchu Science Park, third section of first phase, Hsinchu, Taiwan, ROC, the site of Fab 8D (in Chinese with English summary translation) (5)
4.5	Lease Agreement with Hsinchu Science Park Administration in relation to government-owned land located at Hsinchu Science Park, third section of second phase, Hsinchu, Taiwan, ROC, the site of Fab 8E (in Chinese with English summary translation) (6)
4.6	Lease Agreement with Hsinchu Science Park Administration in relation to government-owned land located at Hsinchu Science Park, Gin-Shan section, Hsinchu, Taiwan, ROC, the site of Fab 8F (in Chinese with English summary translation) (7)
4.7	Lease Agreement with Southern Taiwan Science Park Administration in relation to government-owned land located at Tainan Science Park, Tainan, Taiwan, ROC, the site of Fab 12A (in Chinese with English summary translation) (8)
*4.8	Merger Agreement, entered into as of February 26, 2004, between United Microelectronics Corporation and SiS Microelectronics Corporation (English Translation)
*8.1	List of Significant Subsidiaries of United Microelectronics Corporation
*11.1	Code of Ethics
*12.1	Certification of our Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
*12.2	Certification of our Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
*13.1	Certification of our Chief Executive Officer pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
*13.2	Certification of our Chief Financial Officer pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
*14.1	Consent of Independent Accountants

\* filed herewith.

- (1) Incorporated by reference to Exhibit (a) to the Registrant's Registration Statement on Form F-6 (File No. 333-13796) filed with the Commission on August 6, 2001.
- (2) Incorporated by reference to Exhibit 10.6 to the Registrant's Registration Statement on Form F-1 (File No. 333-12444) filed with the Commission on August 28, 2000, as amended.
- (3) Incorporated by reference to Exhibit 10.7 to the Registrant's Registration Statement on Form F-1 (File No. 333-12444) filed with the Commission on August 28, 2000, as amended.
- (4) Incorporated by reference to Exhibit 10.8 to the Registrant's Registration Statement on Form F-1 (File No. 333-12444) filed with the Commission on August 28, 2000, as amended.
- (5) Incorporated by reference to Exhibit 10.9 to the Registrant's Registration Statement on Form F-1 (File No. 333-12444) filed with the Commission on August 28, 2000, as amended.

## Edgar Filing: UNITED MICROELECTRONICS CORP - Form 20-F

- (6) Incorporated by reference to Exhibit 10.10 to the Registrant's Registration Statement on Form F-1 (File No. 333-12444) filed with the Commission on August 28, 2000, as amended.
- (7) Incorporated by reference to Exhibit 10.11 to the Registrant's Registration Statement on Form F-1 (File No. 333-12444) filed with the Commission on August 28, 2000, as amended.
- (8) Incorporated by reference to Exhibit 10.12 to the Registrant's Registration Statement on Form F-1 (File No. 333-12444) filed with the Commission on August 28, 2000, as amended.