UNITED MICROELECTRONICS CORP
Form 20-F
June 25, 2003
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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

x Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the fiscal year ended *December 31, 2002*.

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 ____

(Exact Name of Registrant as Specified in Its Charter)

United Microelectronics Corporation

(Translation of Registrant s Name Into English)

Taiwan, Republic of China

(Jurisdiction of Incorporation or Organization)

No. 3 Li-Hsin Road II, Science-Based Industrial Park,

Hsinchu, 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.

15,238,578,646 Common Shares

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes x No ¨

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

Item 17 ¨ Item 18 x

(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 ¨

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UNITED MICROELECTRONICS CORPORATION

FORM 20-F ANNUAL REPORT

FISCAL YEAR ENDED DECEMBER 31, 2002

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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 referenc to a time prior to the merger, refer to the combined entity as if the merger had then already occurred. The references to United Semiconductor, United Silicon, United Integrated Circuits, UTEK Semiconductor , UMCJ and UMCi are to United Semiconductor Corporation, United Silic Incorporated, United Integrated Circuits Corporation, UTEK Semiconductor Corporation (formerly Holtek Semiconductor), UMC JAPAN (formerly Nippon Foundry Inc.) and 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 of which represents five of our common shares. The ADSs are issued under the Deposit Agreement, dated as of September 21, 2000, among United Microelectronics Corporation, 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.

United Microelectronics Corporation publishes its 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, DE German Marks and EUR means Euro.

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;

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

possible disruptions in commercial activities caused by natural and human induced disasters, including terrorist activity and armed conflict, 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 numbe 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.

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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. The use of an ASIC in place of a conventional integrated circuit reduces product size and cost and also improves reliability.
BICMOS	IC fabrication technology that produces both bipolar transistors and CMOS transistors and combines them on one chip.
Cell	A primary unit that normally repeats many times in an integrated circuit. For example, a cell represents a bit in a memory integrated circuit.
CMOS	Complementary Metal Oxide Silicon. Currently the most common integrated circuit fabrication process technology, CMOS is one of the latest fabrication techniques to use metal oxide semiconductor transistors.
Die	A piece of a semiconductor wafer containing the circuitry of a 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.
8-inch wafer equivalents	Standard unit describing the equivalent amount of 8-inch wafers produced after conversion. 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. Used to quantify levels of wafer production for purposes of comparison.
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.
Integrated circuit	A combination of two or more transistors on a base material, usually silicon. All semiconductor chips, including memory chips and logic chips, are just very complicated integrated circuits with thousands of transistors.
Interconnect	The conductive path that is made from copper or aluminum is required to achieve connection from one circuit element to 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	In the higher layers of the integrated circuit, insulating material is used to separate interconnect layers. A low dielectric constant (k) is desired in the insulator in order to minimize parasitic capacitance, which acts as a drag on system performance, or clock speed. At the 0.13-micron node, for clock

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	speeds above 1 GHz, low-k dielectrics are necessary.
Mask	A piece of glass on which an integrated circuit circuitry design is laid out. Integrated circuits may require up to 20 different layers of design, each with its own mask. In the integrated circuit production process, a light shines through the mask leaving an image of the design on the wafer.
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.
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.
SOI	Silicon-On-Insulator. A composite structure consisting of an active layer of silicon deposited on an insulating material. The insulator can be sapphire, silicon dioxide, silicon nitride, or even an insulating form of silicon itself. The ICs subsequently deposited in the active silicon layer can have advantages of radiation hardness, speed, and high-temperature operation.
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 strong light. The machine then steps to the next area repeating the process until the entire wafer has been done. Exposing only a small area of the wafer at a time allows the light to be focused more strongly which gives better resolution of the circuitry design.
System-on-a-chip	A chip that incorporates functions currently performed by several chips on a cost-effective basis.
Transistor	An individual circuit that can amplify or switch electric current. This is the

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	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.

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PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

A. Selected Financial Data

The selected balance sheet data as of December 31, 2001 and 2002 and the selected statements of income and cash flow data for the years ended December 31, 2000, 2001 and 2002, have been derived from our audited consolidated financial statements included elsewhere in this annual report. The selected balance sheet data as of December 31, 1998, 1999 and 2000, and the selected statements of income and cash flow data for the year ended December 31, 1998 and 1999 have been derived from our audited consolidated financial statements, which are 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 US, or US GAAP. For a discussion of these differences, see note 28 to our audited consolidated financial statements included elsewhere in this annual report. Some of the statement 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, NT$19 million, nil and NT$29 million for 2000, 2001 and 2002, respectively, were removed through an adjustment to minority interest.

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	Year ended December 31,					
	1998	1999	2000	2001	2002	
	NT$	NT$	NT$	NT$	NT$	US$
	(in millions, except per share and per ADS data)					
Consolidated Statement of Income Data:						
ROC GAAP						
Net operating revenues	18,760	33,735	115,609	69,817	75,425	2,173
Costs of goods sold	14,556	24,828	57,411	60,568	62,887	1,812
Gross profit	4,204	8,907	58,198	9,249	12,538	361
Operating expenses:						
Sales and marketing	299	407	1,153	2,276	1,527	44
General and administrative	1,618	1,288	3,196	4,425	3,531	102
Research and development	1,934	3,131	6,306	8,960	7,368	212
Total operating expenses	3,851	4,826	10,655	15,661	12,426	358
Operating income (loss)	353	4,081	47,543	(6,412)	112	3
Net non-operating income (expense)	3,589	18,178	4,786	(154)	6,904	199
Income (loss) before income tax and minority interest	3,942	22,259	52,329	(6,566)	7,016	202
Income tax (expense) benefit	455	(829)	91	3,040	(271)	(8)
Minority interest (income) loss	10	(10,932)	(1,640)	369	327	10
Net income (loss)	4,407	10,498	50,780	(3,157)	7,072	204
Earnings (loss) per share basic and diluted(1)	0.44	1.01	3.49	(0.21)	0.48	0.01
Shares used in earning per share calculation:.						
Basic	9,962	10,341	14,546	14,921	14,753	14,753
Diluted(2)	9,962	10,341	14,546	14,921	14,945	14,945
Earnings (loss) per ADS basic and diluted	2.20	5.05	17.45	(1.05)	2.40	0.07
U.S. GAAP						
Net (loss) income	(69)	4,747	27,134	(23,247)	294	8
(Loss) earnings per share:						
Basic & diluted	(0.01)	0.48	1.91	(1.58)	0.02	
Shares used in (loss) earnings per share calculation:						
Basic	9,609	9,974	14,179	14,671	14,655	14,655
Diluted(2)	9,609	9,974	14,179	14,671	14,729	14,729
(Loss) earnings per ADS:						
Basic & diluted	(0.05)	2.40	9.55	(7.90)	0.10	

	As of December 31,

	1998	1999	2000	2001	2002	
	NT$	NT$	NT$	NT$	NT$	US$
			(in millions)			
Consolidated Balance Sheet Data:						
ROC GAAP						
Current assets	36,349	39,382	96,760	100,787	110,922	3,197
Long-term investment	35,812	59,565	39,515	40,757	38,673	1,115
Property, plant and equipment	25,426	43,720	163,415	169,121	167,077	4,815
Total assets	100,068	148,369	309,789	320,694	327,029	9,424
Current liabilities	8,880	24,650	42,107	34,524	29,147	840
Long-term debt (excluding current portion)	18,765	10,695	35,534	54,695	62,321	1,796
Total liabilities	27,996	35,852	80,687	91,778	93,581	2,697
Stockholders equity	71,952	102,620	219,948	213,322	217,424	6,266
U.S. GAAP						
Cash and cash equivalents	20,564	24,728	60,350	57,826	54,219	1,563
Working capital(3)	28,496	13,945	51,212	66,837	72,505	2,089
Total assets	96,466	145,621	421,738	456,879	442,645	12,756
Stockholders equity	67,891	89,877	326,985	349,492	334,025	9,626

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	Year ended December 31,					
	1998	1999	2000	2001	2002	
	NT$	NT$	NT$	NT$	NT$	US$
	(in millions, except percentages and per share data)					
Other Consolidation Data:						
ROC GAAP						
Cash flow:						
Depreciation	4,733	6,386	24,403	34,390	36,568	1,054
Capital expenditure	6,868	19,047	83,483	43,051	35,978	1,037
Cash provided by operating activities	7,368	10,977	68,077	40,187	30,527	880
Cash used in investing activities	(10,657)	(20,837)	(73,683)	(43,257)	(30,458)	(878)
Cash provided by financing activities	10,688	9,486	41,411	18,184	3,162	91
Net cash flow	7,372	4	35,668	14,434	3,979	115
Gross profit margin	22.4%	26.4%	50.3%	13.2%	16.6%	16.6%
Operating profit (loss) margin	1.9%	12.1%	41.1%	(9.2)%	0.1%	0.1%
Net profit (loss) margin	23.5%	31.1%	43.9%	(4.5)%	9.4%	9.4%
Capacity utilization rate (on a combined basis for 1998 and 1999; and on an actual basis for 2000, 2001 and 2002)(4)	85.5%	92.6%	100.0%	46.6%	65.2%	65.2%
Dividends declared per share(5)	0.29	0.15	0.20	0.15	0.15	0.004
U.S. GAAP						
Cash flow:						
Depreciation	4,743	6,392	24,406	34,395	36,572	1,054
Capital expenditure.	6,883	19,048	83,501	43,054	36,008	1,038
Cash provided by operating activities	7,234	11,188	67,977	39,785	30,506	879
Cash used in investing activities	(12,532)	(17,082)	(73,516)	(60,259)	(38,035)	(1,096)
Cash provided by financing activities	10,837	9,685	41,388	18,617	3,162	91
Net cash flow	5,524	4,164	35,622	(2,524)	(3,607)	(104)
Gross profit margin	12.3%	23.2%	44.1%	5.9%	8.2%	8.2%
Operating (loss) profit margin	(14.7)%	6.3%	24.5%	(34.7)%	(11.0)%	(11.0)%
Net (loss) profit margin	(0.4)%	14.1%	23.5%	(33.3)%	0.4%	0.4%

(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 1998 and 1999.
(5) Dividends declared per share are in connection with earnings and accumulated capital surplus.

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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$34.70 = US$1.00, which was the noon buying rate announced by the Federal Reserve Bank of New York on December 31, 2002. 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.

Year Ended December 31,	Average (of Month-End Rates)	High	Low	At Period-End
1997	29.056	33.250	27.340	32.800
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
November	34.673	34.820	34.460	34.760
December	34.799	34.890	34.700	34.700
2003				
January	34.571	34.760	34.400	34.610
February	34.734	34.819	34.610	34.780
March	34.721	34.800	34.580	34.750
April	34.824	34.980	34.790	34.850
May (through May 15)	34.714	34.850	34.650	34.650

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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 Financial Condition and Business

The cyclical nature of the semiconductor industry and periodic overcapacity make us particularly vulnerable to economic downturns as illustrated by our operating results since 2001.

The semiconductor industry has historically been highly cyclical and, at various times, has experienced significant downturns characterized by production overcapacity, reduced product demand, rapid erosion of average selling prices and fluctuations in end-user demand. Historically, companies in the semiconductor industry have expanded aggressively during periods of increased demand in order to generate the capacity needed to meet expected demand in the future. If actual demand does not increase or declines, or if companies in the industry expand too aggressively in light of the actual increase in demand, the industry will generally experience a period in which industry-wide capacity exceeds demand. For this reason, periods of overcapacity in the semiconductor industry have historically followed periods of increased demand.

The semiconductor industry has experienced a downturn since late 2000. Our capacity utilization rate decreased from 100% in 2000 to 47% in 2001, due to rapidly deteriorating demand for our products and services, mainly from our customers in the communication sector, but increased to 65% in 2002 as a result of a rising demand from the consumer electronics and wireless communication businesses. We believe that our operating results in 2001 and 2002 reflect the continued uncertainty in the global economy, conservative corporate information technology spending and low visibility with respect to end market demand. In addition, our average selling price declined approximately 7% between 2001 and 2002, mainly due to the substantial pricing pressure. Future downturns in the semiconductor industry may be severe and could seriously harm our business.

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:

- 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
- recent military actions against Iraq by the United States and its allies;
- 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;

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- 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;
- 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.

The recent outbreak of severe acute respiratory syndrome, or SARS, in several economies in Asia, including Taiwan, and several other Asian countries, may materially and adversely affect our business and results of operations.

Beginning March 2003, several economies in Asia, including China, Hong Kong, Singapore and Taiwan have been severely affected by the outbreak of SARS, a highly contagious form of atypical pneumonia. SARS has caused, and is expected to continue to cause, severe damages to trade and tourism industries as well as on the economies and financial markets of the affected countries, including Taiwan. So far the SARS outbreak has not caused a negative significance on our manufacturing yields or sales volume. However, its effect for our future results remains uncertain. In addition, any economic downturn as a result of the SARS outbreak may have an adverse effect on consumer confidence, and may in turn result in a decrease in the demand for our products and services. Recognizing the growing concern regarding the outbreak of SARS and the possible effect it may have on our business, we have taken several proactive steps to bring this risk to a minimum extent. For example, we are currently prohibiting business related travel by our employees to SARS infected areas outside of Taiwan. We plan to implement additional measures if SARS does not cease or continues to spread in the future. If any of our employees is suspected to have contracted SARS, we may under certain circumstances be required to quarantine such employee and the affected areas of our premises. As a result, we may have to temporarily suspend part of or all of our operations.

Our business may be harmed by changes in general economic and business conditions resulting from events or factors beyond our control.

The terrorist attacks in the United States on September 11, 2001, in Indonesia on October 12, 2002 and in Saudi Arabia on May 13, 2003 may have long-term effects on world economies and markets. In addition, in early 2003, the United States and its allies completed military operations against Iraq, and the global reactions to these military operations are still being formulated. Concerns about the war and possible acts of terrorism directed against the United States and its interests as well as political tensions in other areas of the world, have affected and will likely to affect the global economy and consumer confidence.

Any economic downturn resulting from any of the events described above may reduce the demand for our products and services and negatively impact our results of operations. We cannot guarantee that our business will not be substantially affected by similar events in the future. The

impact and future effects of these events are currently uncertain, and we are unable to predict the future impact they may have on our business and operations, the international markets in which we operate and the global economy in general.

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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, consumer electronics, computer, memory and other applications generated 31.3%, 30.8%, 27.3%, 8.9% and 1.7%, respectively, of our net operating revenues in 2002. The communication applications and personal computer markets have experienced a sudden and substantial market downturn and inventory correction since late 2000. This downturn resulted in a reduced demand for our services, hence lower revenues and incurrence of losses. Any significant decrease in the demand for communication applications or personal computers may further decrease the demand for our services. In addition, if the average selling prices of communication applications 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 since late 2000 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 in advance. When they occur, our business, profitability and price of the shares and ADSs are likely to suffer.

If the demand for foundry services continues to slow down, we may lose customers and our revenues could significantly decline.

The demand for third-party foundry services by integrated device manufacturers, system companies and fabless design companies has decreased in recent years, in part because many integrated device manufacturers have returned to manufacturing their semiconductor products internally in order to maintain their equipment utilization rates. The recent slowdown in demand has resulted in a lower rate of investment return than we originally planned. Our revenues were negatively affected in 2001 and 2002 due to reductions in orders from integrated device manufacturer customers and, if such trend continues, our future revenues could continue to decline.

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. If we do not continue to produce the most advanced products at competitive prices, our customers may use the services of our competitors instead of our services, 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 developing new semiconductor manufacturing process technologies, we are dependent on our technology partners to advance our portfolio of process technologies. We currently have technology joint development arrangements with

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Infineon and patent cross-licensing agreements with several companies, including Agere Systems Inc., Harris, Hitachi, IBM , Motorola 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 and, to a lesser extent, 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 Silterra Malaysia Sdn. Bhd., 1st Silicon (Malaysia) Sdn. Bhd., Semiconductor Manufacturing International (Shanghai) Corporation and Grace Semiconductor Manufacturing Corp. 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;
- 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:

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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 late 2000, our capacity utilization rate, which was 100% in 2000, decreased to 47% in 2001, but increased to 65% in 2002. 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 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 2002, our top ten end customers accounted for 53.2% of our net operating revenues. MediaTek and Xilinx, in particular, each accounted for over 10% of our net operating revenues in 2002. 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

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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 will incur substantial costs, in connection with our planned joint ventures to construct and operate new fabs in Singapore.

In March 2001, we entered into a foundry venture agreement with EDB Investments Pte Ltd and Infineon, relating to the formation of UMCi Pte Ltd, a joint venture in Singapore to construct and operate a 12-inch wafer fab in Singapore s Pasir Ris Wafer Fab Park. The facilities of UMCi are expected to employ advanced process technologies, ranging from 0.13 micron to 65-nanometer. Under the terms of the foundry venture agreement, we expect to invest up to US$630 million in UMCi. UMCi began to install equipment in January 2003, and plans to start pilot production by the end of 2003 for the interconnect copper layers of line qualification. Due to the sluggish economy during the past two years, the progress on the construction and capacity expansion of UMCi fab is currently behind the original schedule. We have not guaranteed to pay any amounts owed by UMCi to any institution extending the external financing and do not plan to do so in the future. As of March 31, 2003, we had invested US$161 million in UMCi and held a 49.74% equity interest in UMCi. In addition, through a voting rights and proxies agreement with Infineon and UMCi, we have voting control over an additional 15% of the ordinary shares of UMCi. Currently, our directors Robert H.C. Tsao, John Hsuan, Peter Chang and Chris Chi are directors of UMCi, and together constitute a majority of the board of directors of UMCi.

In January 2002, we entered into agreements with AMD (i) to conduct joint development of 90-nanometer and 65-nanometer process technologies, (ii) to form AU Pte. Ltd., a joint venture to construct, own and operate a 12-inch fab in Singapore, and (iii) to establish a foundry relationship covering a significant portion of AMD s semiconductor fabrication needs. Subsequently, both parties reached an agreement to discontinue the joint technology development aspect of our cooperation. However, the plan to construct the 12-inch fab under the joint venture remains under consideration, and we will continue to offer foundry services to AMD in response to its fabrication needs. As of the date of this filing, neither we nor AMD has invested any capital in this joint venture.

We have not previously had any commercial manufacturing operations in Singapore. Doing business in Singapore involves risks related to infrastructure, changes in local laws and economic and political conditions. We have chosen to locate our planned fabs in Singapore in part to take 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, if we fail to transfer and ramp up our technology in a timely manner, or if costs exceed expectations, our equity interest in UMCi could result in substantial investment losses which may negatively affect our income or loss.

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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 and 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.

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 retain new experienced personnel in the future, it could seriously disrupt our operations and delay or restrict the growth of our business.

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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 discourage other customers from using our services. This may hurt our profitability and competitive position.

The differences between ROC and US accounting standards affect the amount of our net income.

Our financial statements are prepared under generally accepted accounting principles in the ROC, or ROC GAAP, which differ in certain significant respects from generally accepted accounting principles in the United States, or 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 2000, 2001 and 2002 under US GAAP was NT$27,134 million, NT$(23,247 million) and NT$294 million (US$8 million), respectively, as compared to net income (loss) under ROC GAAP of NT$50,780 million, NT$(3,157 million) and NT$7,072 million (US$204 million) in 2000, 2001 and 2002, respectively. For a discussion of these differences, see note 28 to our audited consolidated financial statements included elsewhere in this annual report.

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;
- 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 you 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-Based Industrial Park where our new 12-inch fab, Fab 12A, is located. Trains on this system are expected to begin running as early as in mid 2005. Once these trains begin running, they would emit microvibrations

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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;
- the ramping up of UMCi in connection with our joint venture with EDB Investments and Infineon;
- the migration to more advanced process technologies, such as 90-nanometer process technology; and
- the adoption of new materials, such as the low-k dielectric 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-Based Industrial 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, which might adversely affect our ability to ramp up production in accordance with our schedule. Our failure to ramp up our production on a timely basis 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 of 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 2002, we purchased a majority of our 8-inch raw silicon wafers from two suppliers, Shin-Etsu Handotai and Taisil Electronic Materials Corporation. We do not have long-term contracts with most of our suppliers. From time to time, vendors have extended lead times or limited the supply of required 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 times from order to delivery of this equipment can be as long as 6 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

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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-Based Industrial Park. We and these customers and suppliers are dependent on the infrastructure supporting the Park. Our and their operations depend on the ability to avoid damages from earthquakes, floods, droughts, power losses and similar events that affect the 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 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-Based Industrial 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. 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-Based Industrial 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 growing 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.

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 substantially all our assets are located in Taiwan and most of our net operating revenues are derived from our operations in Taiwan. Accordingly, our business and results of operations and the market price of our shares and ADSs may be affected by changes in Taiwan governmental policies, taxation, inflation or interest rates and by social instability and diplomatic and social developments in or affecting Taiwan which are outside of our control. Taiwan, as part of the Republic of China, has a unique international political status. The People s Republic of China asserts sovereignty over mainland China and Taiwan and does not recognize the legitimacy of the Taiwan government. Although significant economic and cultural relations have been established during recent years between Taiwan and the People s Republic of China, the government in mainland China has

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indicated that it may use military force to gain control over Taiwan if Taiwan declares independence or indefinitely delays progress towards unification as well as if any foreign power interferes in Taiwan s affairs. The People s Republic of China has threatened to take hostile actions toward Taiwan if Taiwan does not officially endorse the People s Republic of China s one China policy. Relations between Taiwan and the People s Republic of China and other factors affecting the political or economic conditions of Taiwan could substantially impact our business and the market price and the liquidity of our shares and ADSs.

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 United Microelectronics. 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 2002, such incentives resulted in a tax credit in the amount of NT$1,041 million (US$30 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 US 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 decade, 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. On March 13, 2000, the Taiwan Stock Exchange Index experienced a 618-point drop, which represented the single largest decrease in the Taiwan Stock Exchange Index in its history. During 2002, the Taiwan Stock Exchange Index peaked at 6,484.93 on April 22, 2002, and reached a low of 3,845.76 on October 11, 2002. On May 15, 2003, the Taiwan Stock Exchange Index closed at 4,331.24, and the daily closing value of our shares was NT$20.9 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.

From September 19, 2000, the commencement date of the listing of our ADSs on the New York Stock Exchange, to May 15, 2003, daily reported closing prices of our ADSs ranged from US$15.19 per ADS to US$2.93 per ADS. The market price of the ADSs may also be affected by general trading activities on the US 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.

Over half of our net operating revenues are denominated in currencies other than New Taiwan dollars, primarily US dollars and Japanese Yen. On the other hand, over 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 US

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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 US dollar and the New Taiwan dollar will affect the US dollar value of the ADSs and the US 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

We may be required to make large open market purchases of our shares pursuant to the terms of our Zero Coupon Convertible Bonds due 2004, which could adversely affect our financial condition and the market value of the shares and ADSs.

We offered our Zero Coupon Convertible Bonds due 2004 in December 2001. The shares, which will underlie the ADSs into which our Zero Coupon Convertible Bonds due 2004 are convertible, are currently held by us as treasury shares. As of the date of the offering of our Zero Coupon Convertible Bonds due 2004, we had 129.035 million authorized shares held by us as treasury shares for delivery upon the conversion of our Zero Coupon Convertible Bonds due 2004 into shares or for deposit into our ADS program, which number we believe is sufficient for delivery as prescribed by the indenture dated December 12, 2001 governing our Zero Coupon Convertible Bonds due 2004 upon exercise of all conversion rights with respect to all of our Zero Coupon Convertible Bonds due 2004. If more than 129.035 million shares are required to be delivered by us in connection with the exercise of all conversion rights or conversion rights associated with any other bonds to be issued by us, we may make open market purchases of our shares or, to the extent future changes to ROC laws and regulations permit, issue new shares in order for the delivery of sufficient numbers of shares to holders of our Zero Coupon Convertible Bonds due 2004 or for deposit into our ADS program, as the case may be, upon conversion at the time when a holder of our Zero Coupon Convertible Bonds due 2004 exercises its conversion rights.

We are not allowed under ROC law to pay dividends on our treasury shares. Under the terms of the indenture, from time to time and at our discretion, we may make open market purchases of our shares or, to the extent future changes to ROC laws and regulations permit, issue new shares to offset the dilutive effects caused by certain events that result in adjustments to the conversion price of our Zero Coupon Convertible Bonds due 2004 under the indenture on the number of shares we will be obligated to deliver to holders of our Zero Coupon Convertible Bonds due 2004 or for deposit into our ADS program, as the case may be, upon conversion at the time when a holder of our Zero Coupon Convertible Bonds due 2004 exercises its conversion rights.

We may have to spend significant amounts of capital, and any such purchases may occur at prices exceeding the conversion price of our Zero Coupon Convertible Bonds due 2004 in effect at such time, which could adversely affect our financial condition and the price of the shares and ADSs.

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 Securities and Futures Commission of the ROC 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) purchases of our shares in the domestic market in Taiwan by the investor directly or through the depositary and delivery of such shares to the custodian for deposit into our ADS program, subject to the following conditions: (a) the depositary 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 the

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Securities and Futures Commission of the ROC, 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 and the corresponding shares which are withdrawn from our ADS facility by holders have been sold in the domestic market in Taiwan.

Such limitations will not apply to the shares deliverable in the form of ADSs immediately upon conversion of our Zero Coupon Convertible Bonds due 2004, for which such Securities and Futures Commission approval has already been obtained. As a result of the limited ability to deposit shares into our ADS program, the prevailing market price of our ADSs on the New York Stock Exchange 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.

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 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 depositary to vote in the same manner regarding a resolution, including election of directors and/or supervisors, the depositary 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 depositary 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 depositary 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 depositary will not offer those rights to ADS holders unless both the rights and the underlying securities to be distributed to ADS holders are either registered under the Securities Act or exempt from registration under the Securities Act. 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 US 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 US 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 US 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.

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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 under current ROC laws and regulations to appoint an agent, who also serves as a tax guarantor, in Taiwan for filing tax returns and making tax payments on their behalf. A tax guarantor must meet certain qualifications set by the Ministry of Finance of the ROC and, upon appointment, becomes a guarantor of the holder s ROC tax obligations. Holders wishing to repatriate profits derived from the sale of shares received upon the withdrawal of shares or cash dividends or interest derived from any such shares, will be generally required to submit evidence of appointment of a tax agent and the approval of the appointment by the ROC tax authorities. We cannot assure you that you will be able to appoint and obtain approval for a tax agent in a timely manner.

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.

In addition, under current ROC law, holders of our ADSs who elect to withdraw our shares will be required to appoint a local agent in Taiwan to, among other things, open a securities trading account with a local securities brokerage firm, remit funds and exercise shareholders rights. They must also appoint a local bank to act as custodian for handling confirmation and settlement of trades, safekeeping of securities and cash proceeds and reporting and declaration of information. Without this local agent, the custodian and the opening of the trading account, they will not be able to hold, sell or otherwise transfer our shares on the Taiwan Stock Exchange.

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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, Science-Based Industrial Park, Hsinchu, Taiwan, Republic of China, and our telephone number is 886-3-578-2258. Our Internet Web site address is *www.umc.com*. The information on our Web site is not part of this annual report. Our ADSs have been listed on the New York Stock Exchange 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 31.3%, 30.8%, 27.3%, 8.9% and 1.7%, respectively, of our net operating revenues for 2002. 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 and 0.15 micron. Moreover, we have developed our own 0.13 micron and 90-nanometer process technologies with both fluoridated silicon glass, or FSG, and low-k dielectric insulation as well as copper metal wiring layers. Our 0.18 micron and below technologies have contributed to approximately 26.7% of our total net operating revenues in 2002, compared to 18% in 2001. We believe such technologies will better serve the needs of advanced customer chip designs with high performance and low power consumption. We set up a special development team in early 2002 with the primary focus on the 65-nanometer technology. In addition, our other development teams have been developing technologies including silicon on insulator, or SOI, strained silicon devices and advanced modules such as high-k dielectric insulator, raised source and drain and advanced optical proximity correction, or OPC. We believe our superior process technologies enable us to offer our customers significant performance, lead time, 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 times, high yields, 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 times, 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 times 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 8,000 12-inch wafers, equivalent to a monthly capacity of 18,000 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

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Sony Corporation, and allows our company to offer them local outsourcing of semiconductor production. In March 2001, we entered into a foundry venture agreement with EDB Investments Pte Ltd, the investment arm of the Singapore Economic Development Board, and Infineon Technologies AG to form UMCi Pte Ltd, or UMCi, a joint venture to construct and operate a 12-inch fab in Singapore s Pasir Ris Wafer Fab Park. The facilities of UMCi are expected to employ advanced process technologies, ranging from 0.13 micron to 65-nanometer process technology. UMCi began to install equipment in January 2003, and plans to start pilot production by the end of 2003 for the interconnect copper layers of line qualification.

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, Philips (VLSI), Sony Corporation, STMicroelectronics Inc. and Texas Instruments; top line system companies, such as Ericsson Microelectronics AB; and leading fabless design companies, such as ATI Technologies Inc., or ATI, Conexant Systems Inc., MediaTek Inc., Novatek Microelectronics Corp., Ltd., Qualcomm Incorporated, Realtek Semiconductor Corp. and Xilinx, Inc. For the year ended December 31, 2002, our company s top ten end customers accounted for 53.2% 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.

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 our partners and we 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 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, Ericsson, Infineon, MediaTek, Oki, 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 and graphics area in order

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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-Producible Semiconductor Technology and Selectively Pursue Strategic Investments in New Technologies. We believe that maintaining and enhancing our leadership in mass-producible 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 and system 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 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 technology also apply to the 90-nanometer node. Our 90-nanometer process marks further advance in our technology achievements, incorporating up to 9 copper metal layers, triple gate oxide and other advanced features. 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 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, we have begun installing equipment into our UMCi fab, a 12-inch fab joint venture with EDB Investments and Infineon. Our Fab 12A is expected to employ advanced 0.18 micron to 90-nanometer process technologies, while the UMCi fab is expected to employ advanced 0.13 micron to 65-nanometer process technology. 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 2003 is approximately US$500 million. 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 257,000 8-inch wafer equivalents per month in December 2002. Our annual total production capacity reached 2,978,000 8-inch wafer equivalents in 2002.

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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.

	Fab 6A	Fab 8AB(1)	Fab 8C	Fab 8D(2)	Fab 8E	Fab 8F	Fab 12A	UMCJ	UMCi
Commercial production commenced	1989	1995 for the module formerly named Fab 8A; 1996 for the module formerly named Fab 8B	1998	2000	1998	2000	2002	1996	(3)
Estimated current full capacity(4)(5)(6)	29,000 wafers per month	72,000 wafers per month	28,000 wafers per month	19,000 wafers per month	31,000 wafers per month	30,000 wafers per month	18,000 wafers per month	30,000 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 (300 mm)
Clean room(7)	4,850 sq. meters Class-10	12,430 sq. meters Class-0.1	7,850 sq. meters Class-0.1	10,170 sq. meters SMIF	12,300 sq. meters Class-0.1	11,740 sq. meters SMIF	40,704 sq. meters SMIF	7,543 sq. meters Class-0.1	20,000 sq. meters SMIF

(1) Consists of two modules, formerly named Fab 8A and Fab 8B, respectively.
(2) Also referred to as Central R&D Fab, or CRD Fab.
(3) Planned to start pilot production by the end of 2003 for the interconnect copper layers of line qualification.
(4) As of December 31, 2002.
(5) Measured in 8-inch equivalents.
(6) 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.
(7) Class-10 means a standard of air purity under which the amount of dust is limited to fewer than ten particles of 0.1 micron or greater per cubic foot of air. Class-0.1 means a standard of air purity under which the amount of dust is limited to fewer than 0.1 particle of dust per cubic foot of air. SMIF is an advanced system, which isolates and keeps clean the manufacturing environment surrounding integrated circuits produced, rather than the entire plant. Manufacturers generally guarantee an SMIF environment to have less than one particle of

0.1 micron or greater per cubic foot of air.

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 8,000 12-inch wafers per month, equivalent to 18,000 8-inch wafers per month.

In March 2001, we entered into a foundry venture agreement with EDB Investments and Infineon, relating to the formation of UMCi, a joint venture in Singapore to construct and operate a 12-inch fab in Singapore s Pasir Ris Wafer Fab Park. UMCi began to install equipment in January 2003, and plans to start pilot production by the end of 2003 for the interconnect copper layers of line qualification. When completed for commercial production, we expect that this fab will have a production capacity of 40,000 12-inch wafers per month.

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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-Based Industrial Parks is leased from the ROC government.

Location	Size (Land/ Building) (in square meters)	Primary Use	Owned or Leased (Land/Building)
Fab 6A, No. 10, Innovation Rd. I, Hsinchu Science-Based Industrial Park	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-Based Industrial Park	62,114/81,751	8-inch wafer production	Leased (expires in March 2014)/Owned
Fab 8C, No. 6, Li-Hsin Rd. III, Hsinchu Science-Based Industrial Park	9,007/28,984	8-inch wafer production	Leased (expires in March 2016)/Owned
Fab 8D(2), No. 8, Li-Hsin Rd. III, Hsinchu Science-Based Industrial Park	9,089/29,181	8-inch wafer production	Leased (expires in March 2016)/Owned
Fab 8E, No. 17, Li-Hsin Rd., Hsinchu Science-Based Industrial Park	35,000/74,067	8-inch wafer production	Leased (expires in February 2016)/Owned
Fab 8F, No. 3, Li-Hsin Rd. VI, Hsinchu Science-Based Industrial Park	24,180/65,744	8-inch wafer production	Leased (expires in February 2018)/Owned
Fab 12A, No. 18, Nan-Ke Rd. II, Tainan Science-Based Industrial Park	56,000/165,607	12-inch wafer production	Leased (expires in October 2017)/Owned
United Tower, No. 3, Li-Hsin Rd. II, Hsinchu	5,737/85,224	Administration office	Leased (expires in March 2014)/Owned

Science-Based Industrial Park			
Tunhwa South Rd. Office,	166/2,221	Administration office	Owned/Owned
3F, No. 76, Sec. 2, Tunhwa South Rd.,			
Taipei			
Testing Building,	10,762/17,573	Leased to several companies	Owned/Owned
No.1, Chin-Shan, St. 7,			
Hsinchu			

(1) Consists of two modules, formerly named Fab 8A and Fab 8B, respectively.
(2) Also referred to as Central R&D Fab, or CRD Fab.

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

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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 node. Our 90-nanometer process marks further advance in our technology achievements, incorporating up to 9 copper metal layers, triple gate oxide and other advanced features. We believe our progress in the development of 90-nanometer process 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.

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 2002, and the estimated annual full capacity of each fab, actual total annual output and capacity utilization rates for 2000, 2001 and 2002:

	Year ended December 31, 2002 Range of Process Technologies	Year ended December 31,		
		2000	2001	2002
		(in thousands of 8-inch wafer equivalents, except percentages)		
	(in microns)			
Fab				
5A(1)		33		
6A	3.5 to 0.5	348	345	349
8AB(2)	0.5 to 0.25	926	943	853
8C	0.35 to 0.15	416	460	355
8D(3)	0.25 to 0.09	94	290	214
8E	0.5 to 0.18	373	474	376
8F	0.25 to 0.15	139	351	312
12A	0.18 to 0.13		22	119
UMCJ	0.5 to 0.18	256	370	400
Total estimated capacity		2,585	3,255	2,978
Total output (actual)		2,589	1,518	1,941
Capacity utilization		100.0%	46.6%	65.2%

(1) A 5-inch fab sold in the second quarter of 2000.
(2) Consists of two modules, formerly named Fab 8A and Fab 8B, respectively.
(3) Also referred to as Central R&D Fab, or CRD Fab.

The table below sets forth a breakdown of number and percentage of wafer output by process technologies for 2000, 2001 and 2002. We began commercial operation of our 0.13 micron and 0.15 micron process technologies in the first quarter of 2002 and the fourth quarter of 2000, respectively.

Year ended December 31,

Technology	2000		2001		2002	
(in microns)	(in thousands of 8-inch wafer equivalents, except percentages)					
0.13					27	1.4%
0.15	1	0.0%	15	1.0%	75	3.9
0.18	206	8.0	142	9.4	247	12.7
0.25	634	24.5	411	27.0	429	22.1
0.35	1,106	42.7	528	34.8	735	37.9
0.50 or higher	642	24.8	422	27.8	428	22.0
Total	2,589	100.0%	1,518	100.0%	1,941	100.0%

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

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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 system-on-chip, or SOC, products, we have started to develop system integration technologies such as embedded memory macro, RF and mixed-signal processes, in order to accommodate the need of SOC designers.

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-Based Industrial Park in Taiwan, and Fab 12A, which is located in the Tainan Science-Based Industrial Park in Taiwan. Fab 8AB consists of two modules, formerly named as Fab 8A and Fab 8B, respectively. We also have a controlling interest in UMCJ, which owns one 8-inch fab in Japan. In early 2002, our previously named Fab 8D was combined with our research and development division. Therefore, we now also refer to such fab as Central R&D Fab, or CRD Fab. 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.

Our future expansion plans will focus primarily on 12-inch wafer facilities in order to maintain our technology leadership. Although we currently do not have any plan to expand our 8-inch capacity, we may from time to time evaluate all expansion opportunities that we believe will benefit our shareholders, including acquisition of other company s existing facilities, potentially including 8-inch equipment and/or an 8-inch fab. 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 8,000 12-inch wafers per month, equivalent to 18,000 8-inch wafers per month. In addition, 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. The facilities of UMCi are expected to employ advanced process technologies, ranging from 0.13 micron to 65-nanometer. UMCi began to install equipment in January 2003, and plans to start pilot production by the end of 2003 for the interconnect copper layers of line qualification. When completed for commercial production, we expect that this fab will have a production capacity of 40,000 12-inch wafers per month.

We have endeavored to maintain and enhance our capacity utilization rates. Periodic industry downturns, such as the downturn we experienced since late 2000, have had a material adverse effect on our and industry-wide utilization rates. However, we believe that our improved production efficiencies and greater diversification of customer base and product mix reduce our susceptibility to such impact.

Equipment

Because the effectiveness and efficiency of our manufacturing processes greatly depend on the quality and technology of our equipment, our policy is to purchase equipment that can fully utilize our existing and anticipated next-generation process technologies. The principal equipment

we use to manufacture semiconductor devices are steppers, cleaners and track equipment, inspection equipment, etchers, furnaces, wet stations, 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.

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Our policy on equipment purchases is to purchase from a small number of qualified vendors to assure 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 a number of purchases of equipment required to provide 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 times, than many 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 fabrication facilities planned or announced by us and other semiconductor companies may put additional pressure on the supply of advanced equipment and maintenance services for such equipment. In periods of unpredictable and highly diversified market demand, the lead times from order to delivery of such equipment can be as long as 6 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 procure materials from a small number of qualified vendors who we believe produce high quality 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 forecast 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 material 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 Taisil, Shin-Etsu Handotai, or SEH, Komatsu Ltd. of Japan and MEMC Electronic Materials of Germany. 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 in production. 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. In the meantime, we have chosen the more reliable uninterruptable power supply, or UPS, to cover power deficiency. During the past several years, we

believe these new devices have effectively prevented business interruption losses caused by power outages and emergency situations.

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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 customers after satisfying stringent quality and reliability standards. 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, process and material control, 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, Ericsson, Infineon, Motorola, Philips (VLSI), Qualcomm, Sharp, STMicroelectronics, 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 check.

In addition, we maintain a Quality and Reliability Assurance Division in Taiwan with 313 engineers, technicians and other staff as of April 30, 2003. 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

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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, MIPS Technologies International, Monolithic System Technology and Virtual Silicon Technologies 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 and 0.13 micron technology and copper interconnect technology. We have also made a significant progress in developing the advanced 90-nanometer and the SOC process technologies. We have been shipping customer products based on our 90-nanometer logic process 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, 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, Philips (VLSI), Sony, STMicroelectronics and Texas Instruments, and system companies, such as Ericsson Microelectronics. The following table presents the percentages of our net operating revenues, by types of customers during the last three years:

	Year ended December 31,		
	2000	2001	2002
Customer Type			
Fabless design companies	68.9%	69.7%	74.0%
Integrated device manufacturers	26.5	28.3	25.6
System companies	4.6	2.0	0.4
Total	100.0%	100.0%	100.0%

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 US fabless design companies, as well as our increasing marketing efforts in the United States, an increasing number of US 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:

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	Year ended December 31,		
	2000	2001	2002
Region			
North America	43.9%	37.3%	35.1%
Asia (excluding Japan)	31.2	35.6	43.2
Europe	20.0	19.3	14.1
Japan	4.9	7.8	7.6
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 ten end customers accounted for approximately 53.2% of our net operating revenues in 2002. MediaTek and Xilinx, in particular, each accounted for more than 10% of our net operating revenues in 2002. 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 31.3%, 30.8%, 27.3%, 8.9% and 1.7%, respectively, of our net operating revenues in 2002.

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 prime functional areas of customer interaction: customer design development 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 seek to interact closely with customers throughout the design development and prototyping process. Our internal design support team actively cooperates with our customers and vendors of libraries, cells and intellectual property offerings to identify 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 times in the customer design cycle, resulting in shorter time-to-volume production. We have entered into alliances with several leading intellectual property vendors, such as Artisan Components, Faraday Technology Corporation, Monolithic System Technology, Inc., Virage Logic Corporation and Virtual Silicon Technology.

After a design moves into manufacturing production, we continue to provide ongoing customer support through all phases of the manufacturing process. The local account manager teams with a dedicated customer service representative, drawing upon marketing and customer engineering support teams at the factory 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 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;

gathering and downloading data for design purposes; and

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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 which will permit our customers to electronically place orders directly with us; and

providing customers with design supports through our help desk and providing customer IP/Library information.

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. In 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. In 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 as well as with Infineon in connection with our technological alliance.

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 us. As a result, these companies may be 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 and Chartered Semiconductor Manufacturing Ltd., as well as the foundry operation services of some integrated device manufacturers such as IBM. New competitors such as Silterra Malaysia Sdn. Bhd., 1st Silicon (Malaysia) Sdn. Bhd., Semiconductor Manufacturing International (Shanghai) Corporation and Grace Semiconductor Manufacturing Corp. 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

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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 2002, we filed 444 patent applications worldwide, 176 of which were filed in the United States. Of the applications filed in the United States, 276 were issued by the end of 2002.

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, joint development or research and development alliances with major technology companies, including a number of leading international semiconductor companies such as Agere Systems, IBM, Infineon, Motorola 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 Hsinchu Science-Based Industrial Park Administration Bureau and Southern Taiwan Science-Based Industrial Park Administration. Our operations are subject to regulation and periodic monitoring by Taiwan s Environmental Protection Administration and local environmental protection authorities.

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 2002, we spent approximately NT$230 million for pollution control equipment, approximately NT$60 million for waste disposal and approximately NT$15 million for environmental monitoring. We also believe that we are in compliance in all material respects with applicable environmental laws and regulations.

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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 continuously 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.

On December 4, 2000, we filed a complaint against Silicon Integrated Systems, or SiS, in the United States District Court for the Northern District of California with respect to certain intellectual property matters. In January 2001, we filed a petition with the United States International Trade Commission, or ITC, alleging further matters against SiS. On March 12, 2003, we and SiS entered a final settlement in respect of the district court and ITC proceedings, and pursuant to that final settlement, filed requests for dismissals of the pending proceedings. Those requests have been granted, and we and SiS have agreed to a Master Cross License Agreement on terms which require payment of compensation to UMC for the use of our intellectual property.

In 1997, Oak Technology Inc. filed a lawsuit against us in the US District Court for the Northern District of California, and initiated a companion administrative law proceeding before the US International Trade Commission. 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 US International Trade Commission case. The US International Trade Commission Administrative Law Judge found there was no infringement by us, and in September 1999, the US International Trade Commission affirmed this finding. Oak Technology appealed the US International Trade Commission s order on non-infringement to the Court of Appeals for the Federal Circuit, which then unanimously affirmed the US International Trade Commission 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, Oak also seeks damages in excess of US$750 million on its breach of contract and other claims. Although we believe that Oak s claims are without merit, we intend to vigorously defend the suit and pursue our counterclaims.

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.

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., or EORM, in the area of equipment safety management and American International Underwriters, Ltd., or AIU, or Marsh Risk Consulting, or MRC, 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

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values. In 2001, based on the recommendation of EQE International Inc. and Vibration Engineering Consultants, we completed our seismic protection improvement projects. In 2002, we achieved a number of risk management goals. Firstly, in order to minimize the business interruption risk, we established and maintained comprehensive and integrated business continuity management protocols, covering aspects such as emergency response, crisis management and disaster recovery program. Secondly, we have implemented a new chemical and process risk evaluation procedure to ensure that all potential hazards with respect to new chemicals or processes are eliminated or mitigated. For similar purposes, we have also established a SEMI S2 evaluation procedure in connection with critical process tools and supporting equipment in all our fabs. Furthermore, we completed a special risk management project with regard to sprinkler replacement in two of our fabs, with the help from the voluntary replacement program provided by Central Sprinkler Company. Finally, in order to reduce potential losses during a power outage, we have built our own emergency power supply system with the capacity to serve more than 60% of our production capacity.

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 2002, our principal capital expenditures, on an acquisition basis, consisted of the purchase of equipment of NT$29,732 million (US$857 million) and the purchase of land and buildings of NT2,552 million (US$74 million). Our initial budget for purchases of semiconductor manufacturing equipment for 2003 is approximately US$500 million on an unconsolidated basis. 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., Faraday Technology Corp. and Silicon Integrated Systems because of these three companies strategic importance to our future operations and expansion. 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. For example, we sold 80 million shares of AU Optronics Corp. in April 2002 in Taiwan and issued in May 2002 US$235 million exchangeable bonds due 2007, which are exchangeable, at the option of the bondholders, into the shares or American depositary shares of AU Optronics. In early June 2002, we also sold 25 million AU Optronics shares in the form of AU Optronics ADSs in connection with the U.S. initial public offering of AU Optronics. In addition, on April 2, 2002, we transferred to Hitachi all our equity interest in Trecenti, a joint venture with Hitachi to build and operate a 12-inch fab in Japan.

Unimicron Technology Corp., formerly known as World Wiser Electronics Incorporated, and 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 Corp. as of September 30, 2001. Unimicron Technology Corp., Bestmult Industry Co. and UniMicron Technology Co. completed the merger of the three companies on October 31, 2001. Unimicron Technology Corp. was the surviving corporate entity and is expected to be one of the top three

printed circuit board manufacturing companies in Taiwan. As of March 31, 2003, we held 36.28% in Unimicron Technology. We were a founding investor in Faraday Technology, a company that offers advanced intellectual property and libraries to our foundry customers.

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In connection with the settlement of our litigations with Silicon Integrated Systems, 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, 2003, we held 16.18% of SiS outstanding share capital. In addition, our representatives currently hold three out of seven board seats of SiS, and John Hsuan, our chief executive officer and vice chairman, is the chairman of SiS.

The table below sets forth the principal business activities engaged in by our main affiliates that are not our consolidated subsidiaries, the dates of our initial investments in these companies and our ownership percentage and carrying amount of investments as of March 31, 2003.

Name	Principal Business Activities	Date of Initial Investments	Ownership	Carrying Amount of Investments
				(in NT$
			%	millions)
Fortune Venture Capital Corporation	Venture capital	September 1993	99.99	2,991
Unimicron Technology Corp.	Manufacture of circuit boards	January 1990	36.28	4,630
Silicon Integrated Systems	IC design and manufacture	December 2002	16.18	5,601

Enforceability of Judgments in Taiwan

We are a company limited by shares incorporated under the ROC Company Law. 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 without further review of the merits only 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 we were personally served within the jurisdiction of the court rendering the judgment or where process was served on us 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

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. We believe this merger has enhanced efficiencies, improved coordination and flexibility, minimized redundancies and achieved consistency in pricing. 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.

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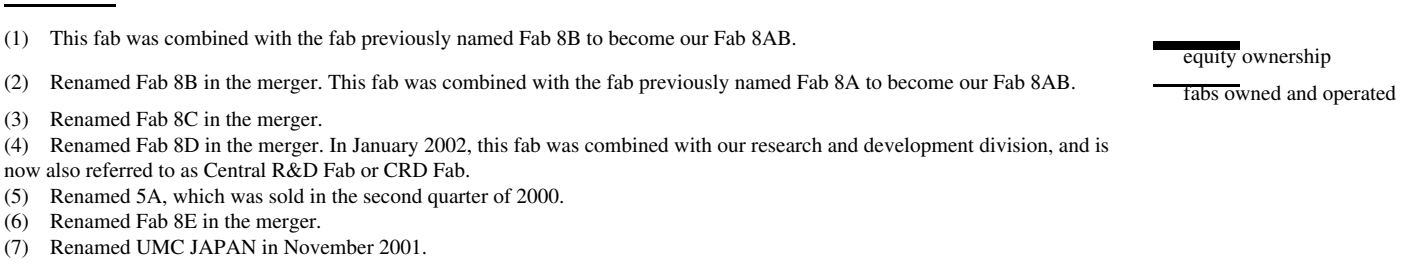
The following diagram shows our corporate structure immediately prior to our consolidation:



(1) This fab was combined with the fab previously named Fab 8B to become our Fab 8AB.

(2) Renamed Fab 8B in the merger. This fab was combined with the fab previously named Fab 8A to become our Fab 8AB.

(3) Renamed Fab 8C in the merger.

(4) Renamed Fab 8D in the merger. In January 2002, this fab was combined with our research and development division, and is now also referred to as Central R&D Fab or CRD Fab.

(5) Renamed 5A, which was sold in the second quarter of 2000.

(6) Renamed Fab 8E in the merger.

(7) Renamed UMC JAPAN in November 2001.

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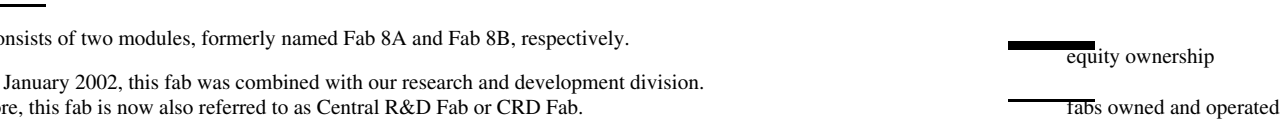
The following diagram shows our corporate structure as of March 31, 2003:



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

(2) In January 2002, this fab was combined with our research and development division. Therefore, this fab is now also referred to as Central R&D Fab or CRD Fab.

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 28 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, 2002 have been translated into US dollar amounts using US$1.00=NT$34.70, the noon buying rate of the Federal Reserve Bank of New York on December 31, 2002. The US dollar translation appears in parentheses next to the relevant NT dollar amount.

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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 257,000 8-inch wafer equivalents in December 2002 on an actual basis. Our annual total production capacity reached 2,978,000 8-inch wafer equivalents in 2002. 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 lead to higher per unit production cost and decreased margins.

To significantly expand our manufacturing capacity while reducing the amount of capital expenditures required to undertake the expansion, in 1995 we invested in three foundry companies, United Semiconductor, United Silicon and United Integrated Circuits, together with a total of eleven international fabless design companies. We made an aggregate of NT$2,401 million, NT$5,583 million, NT$7,614 million, NT$2,023 million and NT$3,614 million of capital contributions to these three companies in 1995, 1996, 1997, 1998 and 1999, respectively, representing a total capital investment of NT$21,235 million as of December 31, 1999. In return for our capital investment, we initially held approximately 40% of each of these companies equity interest. In 1999 we increased our shareholding in United Integrated Circuits from 43% to 62% through purchase of equity interests from some of our partners. Our investments in these foundries have provided us with three additional 8-inch fabs. In addition, through these investment relationships we were also able to secure large amounts of orders from these partners and diversify our customer base, which further lowered our investment risk.

We have also acquired two unprofitable integrated device manufacturers and transformed them into dedicated foundries. In 1998, we purchased for NT$425 million approximately 2% of the equity interest of UTEK Semiconductor, a publicly listed company in Taiwan, which operated one 8-inch fab and one 5-inch fab. In addition, in the first quarter of 1999, we acquired a 52.3% equity interest in UMCJ, formerly known as Nippon Foundry Inc., a publicly listed company in Japan, for NT$2,598 million. UMCJ operates one 8-inch fab in Japan.

In April 2000, we sold our Fab 5A with inventory and facilities and transferred related process technology know-how for approximately NT$1.6 billion. We sold Fab 5A to enhance our profitability as this fab had been less profitable than our other fabs due to its use of and reliance on older technology. We recognized disposal gain and technology transfer revenues which totaled NT$581 million for this transaction in 2000.

To minimize redundancies and pricing inconsistencies associated with operating through five separate companies, 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 refers 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. The facilities of UMCi are expected to employ advanced 0.13 micron to 65-nanometer process technologies. UMCi began to install equipment in January 2003, and plans to start pilot production by the end of 2003 for the interconnect copper layers of line qualification. When completed for commercial production, we expect that this fab will have a production capacity of 40,000 12-inch wafers per month. The expected total capital expenditure for this foundry venture is approximately

US$3.6 billion, which is expected to be financed by equity contributions, external sources of financing, government grants and, to a lesser extent, cash generated from operations. As of March 31, 2003, we had invested US$161 million in UMCi and held a 49.74% equity interest in UMCi. In addition, through a voting rights and proxies agreement with Infineon and UMCi, we have voting control over an additional 15% of the ordinary shares of UMCi. Currently, our directors Robert H.C. Tsao, John Hsuan, Peter Chang and Chris Chi are directors of UMCi, and together constitute a majority of the board of directors of UMCi.

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In February 2000, we formed Trecenti Technologies, Inc., a joint venture with Hitachi to build and operate a 12-inch fab in Japan. Under the joint venture agreement, we held a 40% equity interest in Trecenti and had the right to use half of Trecenti s 12-inch fab s capacity. As of February 28, 2002, we and Hitachi agreed to discontinue the joint venture. We transferred all our 40% equity interest in Trecenti to Hitachi on April 2, 2002 and recognized a gain of NT$1,397 million (US$40 million) in 2002 in connection with the sale of Trecenti shares. Under our agreement with Hitachi concerning the transfer of our Trecenti shares, we surrender our rights to use capacity in Trecenti and have no further obligations to invest in the Trecenti facility.

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.

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 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 sharp drops 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 has experienced a downturn since late 2000, 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 47% in 2001, due to rapidly deteriorating demand, mainly from our customers in the communication sector. As the worldwide semiconductor industry began to stabilize, our capacity utilization rate increased to 65% in 2002 due to increased demand from the consumer electronics and wireless communication businesses. We believe that our results in 2001 and 2002 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 7% from 2001 to 2002, 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.

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Capacity Utilization Rates

Our operating results are characterized by relatively high fixed costs. In 2000, 2001 and 2002, approximately 78.2%, 82.5% and 85.8%, respectively, of our manufacturing costs mainly consisted of depreciation, indirect material costs, amortization of license fees and indirect labor costs. If we increase our utilization rates, 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 100%, 47% and 65% in 2000, 2001 and 2002, respectively. The utilization rate decline in 2001 was due to rapidly deteriorating demand, mainly from our customers in the communication sector. The increase in our utilization rate in 2002 was due to the slight upturn 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 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 addition, we and Infineon are jointly developing 90-nanometer copper interconnect process technologies in 2003. 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 continuously 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.

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Investments

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, 2003. In addition, we formed UMC Capital Corporation in April 2001 for the purpose of making investments in semiconductor-related startup companies. As of March 31, 2003, the paid-in capital of UMC Capital amounted to US$30 million.

Substantially all of our investments are long-term investments, a significant portion of which was in foundry-related companies including fabless design customers, raw material suppliers and intellectual property vendors. In addition, we also invest in nonfoundry-related business, 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 Corp., Faraday Technology Corp. and Silicon Integrated Systems because of our strategic considerations. Depending on the market conditions, we intend to gradually reduce our other investments through all measures available to our company. For example, we sold 80 million shares of AU Optronics Corp. in April 2002 in Taiwan and issued US$235 million exchangeable bonds due 2007 in the second quarter of 2002, which are exchangeable, at the option of the bondholders, into the shares or American depositary shares of, AU Optronics. In early June 2002, we also sold 25 million AU Optronics shares in the form of AU Optronics ADSs in connection with the U.S. initial public offering of AU Optronics. In addition, in April 2002, we transferred to Hitachi all our 40% equity interest in Trecenti and recognized a gain of NT$1,397 million (US$40 million) in 2002 in connection with the sale. Gains from disposal of our long-term investments in 2002, which were offset by our investment losses in the same year, were NT$7,541 million (US$217 million).

Treasury Share Programs

On December 22, 2000, we announced a plan, which was not binding on us, to buy back up to 400 million of our shares on the Taiwan Stock Exchange at a price range of NT$32 to NT$78 per share between December 27, 2000 and February 26, 2001. As of February 26, 2001, we had purchased 37 million of our shares under this plan at an average purchase price of NT$45.88 per share.

On February 26, 2001, we announced a plan, which was not binding on us, to buy back up to 400 million of our shares on the Taiwan Stock Exchange between March 1, 2001 and April 30, 2001. We did not buy back any of our shares during that period.

On July 31, 2001, we announced a plan, which was not binding on us, to buy back up to 130 million of our shares on the Taiwan Stock Exchange at a price range of NT$28 to NT$63 per share between August 1, 2001 and September 30, 2001. As of September 30, 2001, we had purchased 129 million of our shares under this plan at an average purchase price of NT$33.81 per share.

On February 19, 2002, we announced a plan, which was not binding on us, to buy back up to 100 million of our shares on the Taiwan Stock Exchange at a price range of NT$31 to NT$71 per share between February 20, 2002 and April 19, 2002. As of April 19, 2002, we had purchased 49.11 million of our shares under this plan at an average purchase price of NT$44.35 per share.

On August 9, 2002, we announced a plan which was not binding on us, to buy back up to 20.69 million of our shares on the Taiwan Stock Exchange at a price range of NT$21 to NT$54 per share between August 12, 2002 and October 11, 2002. As of October 11, 2002, we had purchased 20.69 million of our shares under this plan at an average purchase price of NT$27.16 per share.

In addition, on March 4, 2003, we announced a plan which was not binding on us, to buy back up to 500 million of our shares on the Taiwan Stock Exchange at a price range of NT$13.8 to NT$31.0 per share between March 5,

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2003 and May 4, 2003. As of May 4, 2003, we had purchased approximately 99.2 million shares under this plan at an average purchase price of NT$20.74 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 significant respects from US GAAP. These differences and their effects on our financial statements are described in note 28 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 on-going 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 the customers usually upon shipment. In the same year sales are recognized, we also make accruals for sales discounts and returns taking into consideration customers complaints and historical experience. As the allowances are accrued based on management s estimates and judgment, reported revenues may differ due to changes in the estimates.

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 1.6% and 0.9% of our accounts receivables, respectively, as of December 31, 2001 and 2002.

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.

Deferred Taxes

We recognize all existing future tax benefits principally from investment tax credits as deferred tax assets. A valuation allowance is then 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

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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 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

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.

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. A decrease of 0.75% point in the discount rate and expected return on plan assets respectively would increase the total pension expense by approximately NT$102 million in 2002.

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. Long-term investments are in public and non-public entities and trading securities are in public entities or mutual funds with a readily determinable market value. We periodically evaluate long-term investments based on market prices, if available, cash flows, other impairment indicators and sales price of stock to third parties and record impairment adjustments as required. Trading securities are stated at the lower of aggregate cost or market value.

Under US GAAP, marketable securities are classified as available for sale securities and changes in market value thereof are recorded in other comprehensive income. We periodically evaluate the carrying value of these

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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.

Embedded Derivatives

Under US GAAP, the derivative instruments embedded in our first exchangeable bond issued in May 2002 and in our investments in three convertible bonds are bifurcated and separately accounted for under SFAS No. 133, Accounting for Derivative Instruments and Hedging Activities. The exchange and conversion options bifurcated were accounted for as freestanding instruments with the changes in fair value included in earnings. The fair value of the 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 take historical trends and data together with judgment of professionals and objective expectation of the management into consideration. Because the model is quite sensitive to changes in the input assumptions, different fair value estimates may result depending on different assessment of the required inputs.

Employee Stock Options

As we have issued our employee stock options during the year, pro forma information regarding net income and earnings per share is required by SFAS No. 123, Accounting for Stock-Based Compensation under US GAAP. 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 well. 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. Since this is our first issue of employee stock options, we do not have actual experience when employees could be expected to exercise their options. As such, we use mid-points for the estimation of 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 MicroMachining Corporation and United Foundry Services Inc. for 2000; Fortune Venture Capital Corporation, United Foundry Services Inc. and UMC Capital Corporation for 2001; and Fortune Venture Capital Corporation, United Foundry Services Inc., UMC Capital Corporation and United Microelectronics Corp. (Samoa) for 2002, 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, 2000, 2001 and 2002.

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:

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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$24,403 million in 2000 to NT$34,390 million in 2001 and to NT$36,568 million (US$1,054 million) in 2002.

Operating expenses

Our operating expenses consist of the following:

Sales and marketing expenses. Sales and marketing expenses consist primarily of salaries and related personnel expenses, wafer sample costs, 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. We have incurred additional expenses associated with being a US public company since September 2000, including costs of directors and officers insurance and increased legal and accounting fees.

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; and
- investment loss, which has been primarily derived from net losses of the investee companies.

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 NT$3,890 million, nil and nil in 2000, 2001

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and 2002, respectively. As of January 30, 2001, the administrative regulations of the Hsinchu Science-Based Industrial Park revoked the preferential tax rate of 20%. Our current tax rate is 25%, the same rate applicable to companies outside the Industrial Park.

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$4,493 million, NT$1,834 million and nil in 2000, 2001 and 2002, respectively.

After taking into account of the tax exemptions and tax incentives discussed above, we recorded NT$91 million and NT$3,040 million of income tax benefit in 2000 and 2001, respectively. We recorded NT$271 million (US$8 million) tax expenses in 2002 and our effective income tax rate in 2002 is 3.86%.

As a result of the merger, losses carried forward of the merged entities, which totaled approximately NT$795 million as of December 31, 1999, were eliminated. However, subject to ROC law, we will be entitled to tax credits which were previously available to the merged entities.

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 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,		
	2000	2001	2002
Net operating revenues	100.0%	100.0%	100.0%
Costs of goods sold	49.7	86.8	83.4
Gross profit	50.3	13.2	16.6
Operating expenses:			
Sales and marketing	1.0	3.3	2.0
General and administrative	2.8	6.3	4.7
Research and development	5.4	12.8	9.8
Operating income (loss)	41.1	(9.2)	0.1
Net non-operating income (expense)	4.2	(0.2)	9.2

Income (loss) before income tax and minority interest	45.3	(9.4)	9.3
Income tax (expense) benefit	0.1	4.4	(0.3)
Minority interest (income) loss	(1.5)	0.5	0.4
Net income (loss)	43.9	(4.5)	9.4

2001 compared with 2002

Net operating revenues. Net operating revenues increased by 8.0% from NT$69,817 million for 2001 to NT$75,425million (US$2,173million) 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.

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Cost of goods sold. Cost of goods sold increased by 3.8% from NT$60,568 million for 2001 to NT$62,887 million (US$1,812 million) for 2002. The marginal increase in cost of goods sold, compared to the magnitude of the increase in net operating revenues, contributed to the improvement in utilization rate from 47% in 2001 to 65% 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 (US$361 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 (US$3 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 (US$358 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 (US$44 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 (US$102 million) for 2002 largely due to the decrease of Fab12A start-up costs in 2002. Fab12A start-up costs were classified as general and administrative expenses before Fab12A 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 (US$212 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 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 (US$199 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 (US$244 million) for 2002 mainly due to disposal of our investments in AU Optronics Corp., MediaTek and Trecenti. Investment loss decreased from NT$1,828 million for 2001 to NT$932 million (US$27 million) for 2002, primarily due to a decrease in the recognition of net operating losses of Trecenti and AU Optronics Corp. 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 Corp. from the equity method to lower cost

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or market value method and need not recognize operating losses with respect to AU Optronics Corp. for 2002 since we were not able to exercise significant influence over AU Optronics Corp. starting from the third quarter of 2001.

Net income. Due to the factors described above, we incurred a net loss of NT$3,157 million for 2001, compared to a net income of NT$7,072 million (US$204 million) for 2002.

2000 compared with 2001

Net operating revenues. Net operating revenues decreased by 39.6% from NT$115,609 million for 2000 to NT$69,817 million for 2001. The decrease in net operating revenues was due primarily to a significant decrease in wafer shipments resulting from the reduced demand for our products and services and to changes in the product mix demanded by our customers.

Cost of goods sold. Cost of goods sold increased by 5.5% from NT$57,411 million for 2000 to NT$60,568 million for 2001. The increase in cost of goods sold for 2001 was primarily due to the increase in overhead costs resulting from the expansion of production capacity. In addition, manufacturing costs, including overhead costs, increased as a percentage of net operating revenues primarily due to the decrease in capacity utilization rate.

Gross profit and gross margin. Gross profit decreased by 84.1% from NT$58,198 million for 2000 to NT$9,249 million for 2001. Gross margin decreased from 50.3% for 2000 to 13.2% for 2001. The decrease in gross margin was due to the decrease in unit production volume, which resulted in a decrease in capacity utilization rates and higher cost per unit.

Operating income and operating margin. We generated an operating income of NT$47,543 million for 2000 compared to a loss of NT$6,412 million for 2001. Our operating margin were 41.1% and 9.2%, respectively, for these two periods. Operating expenses increased by 47.0% from NT$10,655 million for 2000 to NT$15,661 million for 2001.

Sales and marketing expenses.

Our sales and marketing expenses increased by 97.4% from NT$1,153 million for 2000 to NT$2,276 million for 2001. The increase in sales and marketing expenses was due to increases in sample expenses.

Our sales and marketing expenses as a percentage of our net operating revenues increased from 1.0% for 2000 to 3.3% for 2001.

General and administrative expenses

Our general and administrative expenses increased by 38.5% from NT$3,196 million for 2000 to NT$4,425 million for 2001. The increase in general and administrative expenses was largely due to the start-up costs associated with the ramp-up of Fab 12A, which was partially offset by reductions in expenses for maintenance, recruitment and other general corporate affairs between the two periods.

Our general and administrative expenses as a percentage of our net operating revenues increased from 2.8% for 2000 to 6.3% for 2001.

Research and development expenses

Our research and development expenses increased by 42.1% from NT$6,306 million for 2000 to NT$8,960 million for 2001. The increase in research and development expenses was due primarily to increasing expenses incurred in connection with our research and development for 0.18, 0.15 and 0.13 micron process technologies consumption of research and development related materials for 2001 and the depreciation of NT dollars against US dollars between the two periods. Our research and development expenses as a percentage of our net operating revenues increased from 5.4% for 2000 to 12.8% for 2001.

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The decrease in operating margin was largely due to the decrease in gross margin and increases in sales and marketing expenses, general and administrative expenses and research and development expenses as percentages of net operating revenues.

Net non-operating income (expense). Net non-operating results decreased from a net non-operating income of NT$4,786 million for 2000 to a net non-operating expense of NT$154 million for 2001 mainly due to decreases in investment income and exchange gain, partially offset by an increase in gain on disposal of investments. Exchange gain decreased from NT$2,922 million for 2000 to NT$648 million for 2001. Gain on disposal of investments increased from NT$588 million for 2000 to NT$2,347 million for 2001 mainly due to the disposal of MediaTek and Novatek Microelectronics in each of their initial public offerings in 2001.

Investment income decreased from NT$1,726 million for 2000 to a loss of NT$1,828 million for 2001, due largely to the net operating losses of several of our equity investees, primarily Trecenti and Unipac Optoelectronics Corporation, which was merged into AU Optronics Corp. in September 2001.

Net income. Net income decreased by 106.2% from NT$50,780 million for 2000 to a loss of NT$3,157 million for 2001. This decrease in net income was mainly due to the decrease in operating income.

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 substantial 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 US dollars and the proceeds from our ADS offering in September 2000. We incurred capital expenditures of NT$83,483 million, NT$43,051 million and NT$35,978 million (US$1,037 million) in 2000, 2001 and 2002, 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$68,077 million, NT$40,187 million and NT$30,527 million (US$880 million) in 2000, 2001 and 2002, respectively.

As of December 31, 2002, we had NT$80,883 million (US$2,331 million) of cash and cash equivalents and NT$2,526 million (US$73 million) of marketable securities.

Our operating activities generated cash of NT$30,527 million (US$880 million) for 2002. Cash generated from our operating activities for 2002 was primarily attributable to add-back of non-cash items, such as depreciation and amortization in the amount of NT$38,267 million (US$1,103 million).

Net cash used in our investment activities was NT$30,458 million (US$878 million) for 2002. In 2002, we used cash of NT$35,978 million (US$1,037 million) to purchase equipment primarily used at our fabs.

Net cash provided by our financing activities was NT$3,162 million (US$91 million) for 2002. For financing activities for 2002, we received cash of NT$13,097 million (US$377 million) from the issuance of exchangeable bonds and the issuance of zero coupon convertible bonds by UMCJ. We also repaid long-term loans of NT$10,047 million (US$290 million) in cash in 2002.

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Our outstanding short-term loans were NT$1,179 million (US$34 million) as of December 31, 2002. We had total availability under existing short-term lines of credit, which can be drawn in NT dollars, US dollars, Japanese Yen and/or German Marks at our discretion, of NT$21,815 million (US$628.7 million) as of December 31, 2002. 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 1.6% and 2.02% as of December 31, 2002. Our obligations under our short-term loans are unsecured.

We had total availability under existing unused letters of credit for the import of machinery of NT$76 million (US$2 million) as of December 31, 2002.

We had long-term loans of NT$12,880 million (US$371 million) in the aggregate as of December 31, 2002. The interest rates of these long-term borrowings are variable rates and ranged between 0.95% and 3.35% per year as of December 31, 2002.

We had bonds payable of NT$49,441 million (US$1,425 million) in the aggregate as of December 31, 2002.

We have pledged a substantial portion of our assets with a carrying value of NT$24,524 million (US$707 million) as of December 31, 2002 to secure our obligations under the long-term loans.

As of December 31, 2002, our outstanding long-term liabilities primarily consisted of:

- NT$13,990 million secured bank loans, which are repayable in installments with the last payment on May 14, 2009;
- NT$5,531 million unsecured bank loans, which are repayable in installments with the last payment on June 5, 2005;
- NT$2,850 million 5.6% secured bonds due April 27, 2005; these bonds are repayable in seven equal semi-annual installments from April 27, 2002;
- NT$15 billion unsecured domestic bonds consisting of two tranches: NT$7.5 billion 5.1850% unsecured bonds due April 2006 and NT$7.5 billion 5.2850% 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;
- US$302.4 million zero coupon convertible bonds due on March 1, 2004.

The US$302.4 million Zero Coupon Convertible Bonds due 2004 were issued in December 2001 to purchase raw materials abroad and for general corporate purposes. These bonds, which are scheduled to mature on March 1, 2004, are convertible into our shares at an initial conversion price of NT$80.76 per share beginning on January 22, 2002 or into our ADSs at an initial conversion price of US$11.718 per ADS at

the option of the bondholders beginning on January 29, 2002, and are redeemable by us under certain circumstances on or any time after June 13, 2003 and prior to February 20, 2004. The conversion price since price adjustment effective on August 11, 2002 has been NT$69.60 per share, or US$10.098 per ADS. As of April 30, 2003, none of the holders of our Zero Coupon Convertible Bonds due 2004 had exercised conversion rights to receive our shares or our ADSs.

US$235 million zero coupon exchangeable bonds due on May 10, 2007.

We issued US$235 million Zero Coupon Exchangeable Bonds due 2007 in May 2002. 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, at the option of the bondholders, exchangeable into common shares or American depositary shares of AU Optronics Corp. at an initial exchange price of NT$59.34 per AU Optronics share beginning on 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.

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The current exchange price is NT$58.25 per share. As of April 30, 2003, none of the holders of our Zero Coupon Exchangeable Bonds due 2007 had exercised redemption rights to receive shares or ADSs of AU Optronics Corp.

We plan to issue unsecured domestic bonds in the aggregate amount of NT$15 billion by the end of June 2003. These bonds will include two tranches: NT$7.5 billion unsecured bonds due May 2008 with interest rates of 4.00% *minus* 12 month US dollar LIBOR rates but at the minimum of 0%, and NT$7.5 billion unsecured bonds due May 2010 with interest rates of 4.3% *minus* 12 month US dollar LIBOR rates but at the minimum of 0%.

Among the long-term loans, the current portion due within one year was NT$6,642 million (US$191 million) as of December 31, 2002. Among the bonds, the current portion due within one year was NT$1,140 million (US$33 million).

Set forth below are the aggregate amounts, as of December 31, 2002, of our future cash payment obligations under our existing debt arrangements on a consolidated basis.

	Payments Due By Period				
Contractual Obligations	Total	Less Than 1 Year	1-3 Years	4-5 Years	After 5 Years
			(consolidated) (in NT$ millions)		
Long-term debt(1)					
Secured long-term loans	13,990	4,429	8,528	913	120
Unsecured long-term loans	5,531	2,212	3,319		
Secured bonds	2,850	1,140	1,710		
Unsecured bonds	25,000		19,750	5,250	
Capital lease obligations(2)	37	18	19		
Operating leases(3)	3,105	208	414	323	2,160
Other long-term obligations(4)	7,593	2,522	2,595	2,476	
Total contractual cash obligations	58,106	10,529	36,335	8,962	2,280

(1) 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.
(2) Represents our obligations to make lease payments for equipment.
(3) Represents our obligations to make lease payments to use the land on which our fabs are located, primarily in the Hsinchu Science-Based Industrial Park and the Tainan Science-Based Industrial Park in Taiwan and Pasir Ris Wafer Fab Park in Singapore.
(4) 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.

We held several cash deposits with a total amount of approximately NT$6,854 million as of December 31, 2002. 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:

Principal amount in original currency	Reference entities
US$30 million	Fubon Holding Co., Ltd., or Fubon, Cathay Financial Holding Co., Ltd., or Cathay Financial and our company
US$25 million	Siliconware Precision Industries Co., Ltd., or Siliconware
US$20 million	China Development Financial Holding Corporation
US$19 million	King Yuan Electronics Co., Ltd.
US$15 million	Cathay Financial
US$10 million	Fubon, Cathay Financial and our company
US$6.5 million	Unimicron Technology Corp.
US$5 million	Gigabyte Technology Co., Ltd.
US$5 million	Stark Technology, Inc.
US$5 million	Compal Electronics, Inc. and our company
US$5 million	Fubon Holding, Siliconware and our company

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US$5 million	Our company
US$5 million	BENQ Corporation
¥4 billion	UMCJ
¥1 billion	Nikon Corporation

We have entered into several construction contracts for the expansion of our factory space. As of December 31, 2002, these construction contracts amounted to NT$10,340 million (US$298 million) with an un-accrued portion of the contracts of NT$4,755 million (US$137 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 2002, we spent approximately NT$32,284 million (US$930 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 2003 is approximately US$500 million on an unconsolidated basis. 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 2003. We also expect to fund a portion of our capital requirements in 2003 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 20 to our audited consolidated financial statements included in this annual report.

Inflation

We do not believe that inflation in Taiwan has had a material impact on our results of operations. Inflation in Taiwan was approximately 1.26%, -0.01% and -0.20% in 2000, 2001 and 2002, respectively.

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 28 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.

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	Year ended December 31,			
	2000	2001	2002	
	NT$	NT$	NT$	US$
		(in millions)		
Net income (loss)				
Net income (loss), ROC GAAP	50,780	(3,157)	7,072	204
US GAAP adjustments:				
Compensation	(9,340)	(4,526)	(7,349)	(212)
Investment in marketable securities	(311)	(2,989)	(319)	(9)
Gain on technology know-how contributed to foundry venture investee	829			