UNITED MICROELECTRONICS CORP
Form 20-F
June 29, 2005
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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, 2004.

or

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

For the transition period from _____ to _____

Commission file number 1-15128

United Microelectronics Corporation

(Exact Name of Registrant as Specified in its Charter)

Taiwan, Republic of China

(Jurisdiction of Incorporation or Organization)

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

Hsinchu City, Taiwan, ROC

(Address of Principal Executive Offices)

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

Title of Each Class	Name of Each Exchange on which Registered
Common Shares, par value NT$10 per share	New York Stock Exchange

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

None

(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.

17,791,981,859 Common Shares of Registrant issued as of December 31, 2004 (including 241,181,000 treasury 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

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UNITED MICROELECTRONICS CORPORATION

FORM 20-F ANNUAL REPORT

FISCAL YEAR ENDED DECEMBER 31, 2004

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SUPPLEMENTAL INFORMATION

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

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

FORWARD-LOOKING STATEMENTS IN THIS ANNUAL REPORT

MAY NOT BE REALIZED

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

- our dependence on frequent introduction of new services and technologies based on the latest developments;
- the intensely competitive semiconductor, PC and communication industries and markets;
- risks associated with international global business activities;
- our dependence on key personnel;
- natural disasters, such as earthquakes and droughts, which are beyond our control;
- general economic and political conditions, including those related to the semiconductor, PC and communication industries;

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

fluctuations in foreign currency exchange rates;

additional disclosures we make in our previous and future Form 20-F annual reports and Form 6-K periodic reports to the U.S. Securities and Exchange Commission; and

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

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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.
BICMOS	Bipolar CMOS. An integrated circuit fabrication technology that produces both bipolar transistors and CMOS transistors and combines them on one chip.
Cell	Semiconductor structure in an electrical state which can store a bit of information, mainly used as the building block of memory array.
CMOS	Complementary Metal Oxide Silicon, which includes both N-channel and P-channel metal oxide silicon transistors (which are NMOS and PMOS, respectively). Currently the most common used integrated circuit component.
Deep Trench DRAM	Capacitor of DRAM built into a trench etched in the semiconductor substrate. By using a trench configuration, the capacitor can be expanded, increasing its capacity without increasing the portion of the wafer surface needed for the embedded capacitor.
Die	A piece of a semiconductor wafer containing the circuitry of an unpackaged single chip.
DRAM	Dynamic Random Access Memory. A type of volatile memory product that is used in electronic systems to store data and program instructions. It is the most common type of RAM and must be refreshed with electricity hundreds of times per second or else it will fade away.
Digital signal processor	A type of integrated circuit that processes and manipulates digital information after it has been converted from an analog source.
Flash memory	A type of non-volatile memory that is erasable and reprogrammable. It can be erased and reprogrammed in the electronic system into which the flash memory chip has been incorporated.
FSG	Fluoridated Silicon Glass. Fluorine is added to SiO_2, reducing the dielectric constant of a glass from 3.9 to about 3.5.
Integrated circuit	Entire electronic circuit built on a single piece of solid substrate and enclosed in a small package. The package is equipped with leads needed to electrically integrate the integrated circuit with a larger electronic system. Monolithic and hybrid integrated circuits are distinguished by the type of substrate used.
Interconnect	The conductive path made from copper or aluminum that is required to achieve connection from one circuit element to the other circuit elements within a circuit.
Logic device	A device that contains digital integrated circuits that process, rather than store, information.

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Low-k dielectric insulation	Insulating material used to separate interconnect wiring layers. A low dielectric constant k is desired in the insulator in order to minimize parasitic capacitance, which acts as a drag on system performance, or clock speed.
Mask	Photomask. A piece of glass on which an integrated circuit circuitry design is laid out.
Memory	A group of integrated circuits that a computer uses to store data and programs, such as ROM, RAM, DRAM and SRAM.
Micron	A unit of spatial measurement that is one-millionth of a meter.
Nanometer	A unit of spatial measurement that is one-billionth of a meter.
Nonvolatile memory	Memory products which retain their data content without the need for constant power supply.
PC	Personal computer.
RAM	Random Access Memory. A type of volatile memory forming the main memory of a computer where applications and files are run.
ROM	Read-Only Memory. Memory that is programmed by the manufacturer and cannot be changed. Typically, ROM is used to provide start-up data when a computer is first turned on.
Scanner	A photolithography tool used in the production of semiconductor devices. This camera-like step-and-scan tool projects the image of a circuit from a master image onto a photosensitized silicon wafer.
Semiconductor	A material with electrical conducting properties in between those of metals and insulators. Essentially, semiconductors transmit electricity only under certain circumstances, such as when given a positive or negative electric charge. Therefore, a semiconductor s ability to conduct can be turned on or off by manipulating those charges and this allows the semiconductor to act as an electric switch. The most common semiconductor material is silicon, used as the base of most semiconductor chips today because it is relatively inexpensive and easy to create.
SiGe refill process	A technique used to grow Silicon (Si) with Germanium (Ge) doping to increase the compressive strain in PMOS device channel to improve performance.
SoC	System-on-Chip. A chip that incorporates functions currently performed by several chips on a cost effective basis.
SOI	Silicon-On-Insulator. Silicon wafer consisting of a thin layer of oxide, on top of which semiconductor devices are built.
SRAM	Static Random Access Memory. A type of volatile memory product that is used in electronic systems to store data and program instructions. Unlike the more common DRAM, it does not need to be refreshed.

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Stepper	A machine used in the photolithography process in making wafers. With a stepper, a small portion of the wafer is aligned with the mask upon which the circuitry design is laid out and is then exposed to the light source. The machine then steps to the next area repeating the process until the entire wafer has been done.
Transistor	Tri-terminal semiconductor device in which input signal (voltage or current depending on the type of transistor) controls output current. An individual circuit that can amplify or switch electric current. This is the building block of all integrated circuits.
Volatile memory	Memory products which lose their data content when the power supply is switched off.
Wafer	Thin, round, flat piece of silicon that is the base of most integrated circuits.
8-inch wafer equivalents	Standard unit describing the equivalent amount of 8-inch wafers produced after conversion, used to quantify levels of wafer production for purposes of comparison. Figures of 8-inch wafer equivalents are derived by converting the number of wafers of all dimensions (e.g., 6-inch, 8-inch, 12-inch) into their equivalent figures for 8-inch wafers. 100 6-inch wafers are equivalent to 56.25 8-inch wafers. 100 12-inch wafers are equivalent to 225 8-inch wafers.

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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, 2003 and 2004 and the selected statements of income and cash flow data for the years ended December 31, 2002, 2003 and 2004 are derived from our audited consolidated financial statements included elsewhere in this annual report. The selected balance sheet data as of December 31, 2000, 2001 and 2002 and the selected statements of income and cash flow data for the year ended December 31, 2000 and 2001 are derived from our audited consolidated financial statements not included in this annual report.

Our financial statements have been prepared and presented in accordance with generally accepted accounting principles in the ROC, or ROC GAAP, which differ in many material respects from generally accepted accounting principles in the United States, or US GAAP. For a discussion of these differences, see Note 33 to our audited consolidated financial statements included elsewhere in this annual report. Some of the statements of income, cash flow and balance sheet data items have been reconciled to US GAAP and are set forth below. The summary financial data set forth below should be read in conjunction with Item 5. Operating and Financial Review and Prospects and our financial statements and the notes to those statements included elsewhere in this annual report.

	Year Ended December 31,					
	2000	2001	2002	2003	2004	
	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	115,609	69,817	75,425	95,704	129,191	4,070
Costs of goods sold	57,411	60,568	62,887	73,938	92,393	2,911
Gross profit	58,198	9,249	12,538	21,766	36,798	1,159
Operating expenses:						
Sales and marketing	1,153	2,276	1,527	2,171	2,775	87

General and administrative	3,196	4,425	3,531	3,996	4,853	153
Research and development	6,306	8,960	7,368	5,859	7,364	232
Total operating expenses	10,655	15,661	12,426	12,026	14,992	472
Operating income (loss)	47,543	(6,412)	112	9,740	21,806	687
Net non-operating income (expenses)	4,786	(154)	6,904	4,956	9,938	313
Income (loss) before income tax and minority interest	52,329	(6,566)	7,016	14,696	31,744	1,000
Income tax (expense) benefit	91	3,040	(271)	(980)	(374)	(12)
Minority interest (income) loss	(1,640)	369	327	304	473	15
Net income (loss)	50,780	(3,157)	7,072	14,020	31,843	1,003
Earnings (loss) per share:[1]						
Basic	3.07	(0.18)	0.42	0.84	1.89	0.06
Diluted[2]	3.07	(0.18)	0.42	0.83	1.86	0.06
Shares used in earnings (loss) per share calculation:						
Basic	16,506	16,931	16,741	16,644	16,828	16,828
Diluted[2]	16,506	16,931	16,958	17,025	17,095	17,095
Earnings (loss) per ADS:						
Basic	15.35	(0.90)	2.10	4.20	9.45	0.30
Diluted[2]	15.35	(0.90)	2.10	4.15	9.30	0.29
US GAAP						
Net operating revenues	115,616	69,816	75,425	95,704	129,191	4,070
Costs of goods sold	(64,633)	(65,668)	(69,258)	(77,473)	(96,735)	(3,048)
Operating income (loss)	28,275	(24,223)	(8,306)	5,559	(16,434)	(518)
Net income (loss)	27,134	(23,247)	294	10,476	(4,749)	(150)
Earnings (loss) per share:[1]						
Basic	1.70	(1.41)	0.02	0.63	(0.28)	(0.01)
Diluted[2]	1.70	(1.41)	0.02	0.62	(0.28)	(0.01)
Shares used in earnings (loss) per share calculation:						
Basic	15,928	16,481	16,462	16,505	16,773	16,773
Diluted[2]	15,928	16,481	16,545	16,891	17,053	17,053
Earnings (loss) per ADS:						
Basic	8.50	(7.05)	0.10	3.15	(1.40)	(0.05)
Diluted[2]	8.50	(7.05)	0.10	3.10	(1.40)	(0.05)

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	As of December 31,					
	2000	2001	2002	2003	2004	
	NT$	NT$	NT$	NT$	NT$	US$
	(in millions)					
Consolidated Balance Sheet Data:						
ROC GAAP						
Current assets	96,760	100,787	110,922	154,322	132,936	4,188
Long-term investment	39,515	40,757	37,800	38,859	32,712	1,031
Property, plant and equipment	163,415	169,121	167,077	149,557	192,024	6,050
Total assets	309,789	320,694	327,029	354,514	376,305	11,856
Current liabilities	42,107	34,524	29,147	44,140	36,598	1,153
Long-term debt (excluding current portion)	35,534	54,695	62,321	60,334	61,288	1,931
Total liabilities	80,687	91,778	93,581	107,203	101,202	3,188
Stockholders equity	219,948	213,322	217,424	232,233	266,374	8,392
US GAAP						
Cash and cash equivalents	60,350	57,826	54,219	89,196	55,558	1,750
Working capital[3]	51,212	66,837	72,505	104,556	96,180	3,030
Total assets	421,738	456,879	442,645	486,360	460,322	14,503
Total liabilities	85,575	91,792	92,596	108,925	101,354	3,193
Stockholders equity	326,985	349,492	334,025	362,396	350,358	11,038

	As of December 31,					
	2000	2001	2002	2003	2004	
	NT$	NT$	NT$	NT$	NT$	US$
	(in millions, except percentages and per share data)					
Other Consolidated Data:						
ROC GAAP						
Cash flow:						
Capital expenditure	83,483	43,051	35,978	24,820	81,110	2,555
Cash provided by operating activities	68,077	40,187	30,527	49,625	73,938	2,329
Cash used in investing activities	(73,683)	(43,257)	(36,439)	(24,114)	(83,132)	(2,619)
Cash provided by financing activities	41,411	18,184	3,162	17,581	(6,832)	(215)
Net increase (decrease) in cash and cash equivalents	35,668	14,434	(2,002)	43,869	(17,390)	(548)
Gross profit margin	50.3%	13.2%	16.6%	22.7%	28.5%	28.5%
Operating profit (loss) margin	41.1%	(9.2)%	0.1%	10.2%	16.9%	16.9%
Net profit (loss) margin	43.9%	(4.5)%	9.4%	14.6%	24.6%	24.6%
Capacity utilization rate (on an actual basis)	100.0%	46.6%	65.2%	84.8%	90.8%	90.8%
Dividends declared per share[4]	2.0	1.5	1.5	0.4	0.8	0.025
US GAAP						
Cash flow:						
Capital expenditure	83,501	43,054	36,008	24,827	81,127	2,556
Cash provided by operating activities	67,977	39,785	30,506	49,543	73,760	2,324
Cash used in investing activities	(73,516)	(60,259)	(38,035)	(32,923)	(99,155)	(3,124)
Cash provided by financing activities	41,388	18,617	3,162	17,587	(6,819)	(215)
Net increase (decrease) in cash and cash equivalents	35,622	(2,524)	(3,607)	34,977	(33,639)	(1,060)
Gross profit margin	44.1%	5.9%	8.2%	19.0%	25.1%	25.1%
Operating (loss) profit margin	24.5%	(34.7)%	(11.0)%	5.8%	(12.7)%	(12.7)%
Net (loss) profit margin	23.5%	(33.3)%	0.4%	10.9%	(3.7)%	(3.7)%

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

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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$31.74 = US$1.00, which was the noon buying rate announced by the Federal Reserve Bank of New York on December 31, 2004. 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.

	Average(1)	High	Low	At Period-End
2000	31.37	33.25	30.35	33.17
2001	33.91	35.13	32.23	35.00
2002	34.53	35.16	32.85	34.70
2003	34.40	34.98	33.72	33.99
2004	33.27	34.16	31.74	31.74
December	32.17	32.49	31.74	31.74
2005				
January	31.85	32.22	31.65	31.71
February	31.50	31.79	31.06	31.06
March	31.11	31.73	30.65	31.46
April	31.48	31.70	31.23	31.23
May	31.27	31.47	30.98	31.13
June (through June 15)	31.31	31.48	31.15	31.37

Source: Federal Reserve Statistical Release, Board of Governors of the Federal Reserve System.

(1) Determined by averaging the rates on the last business day of each month during the relevant period for annual periods and the rates on each business day for monthly periods.

B. Capitalization and Indebtedness

Not applicable.

C. Reasons for the Offer and Use of Proceeds

Not applicable.

D. Risk Factors

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

Risks Related to Our Business and Financial Condition

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

The semiconductor industry has historically been highly cyclical and, at various times, has experienced significant downturns. Since most of our customers operate in semiconductor-related industries, variations in order levels from our customers can result in volatility in our revenues and earnings. Because our business is, and will continue to be, largely dependent on the requirements of semiconductor companies for our services, downturns in the semiconductor industry will lead to reduced demand for our services. For example, the semiconductor industry experienced a period of economic downturn beginning in the fourth quarter of 2000 until early 2003, due to a number of factors including a slowdown in the global economy, overcapacity in the semiconductor industry and a

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worldwide inventory adjustment. As a result of the downturn, our net operating revenues for 2001 decreased 39.6% from 2000, our net operating revenues for 2002 increased only slightly by 8.0% from 2001. We incurred a net income of NT$7,072 million for 2002 and a net loss of NT$3,157 million for 2001 compared to a net income of NT$50,780 million for 2000. Although the semiconductor industry is generally recovering from the downturn since early 2003 and our net operating revenues for 2003 and 2004 were NT$95,704 million and NT$129,191 million (US$4,070 million), respectively, we cannot give any assurance that the recovery will continue or that any future downturn will not affect our results of operations.

Our net operating revenues are also typically affected by seasonal variations in market conditions that contribute to the fluctuation of the average selling prices of semiconductor services and products. The seasonal sales trends for semiconductor services and products closely mirror those for consumer electronics and computer sales. We generally experience seasonal lows in the demand for semiconductor services and products during the second quarter and the beginning of the third quarter of the year, primarily as a result of decreased worldwide production and sales of consumer electronics and computers during such periods, due to decreased demand for consumer electronics and computers. On the other hand, we generally experience seasonal peaks during the latter part of the third quarter and the fourth quarter of the year, primarily as a result of increased worldwide production and sales of consumer electronics and computers during such periods due to increased demand for computers from holiday sales. However, we cannot give any assurance that seasonal variations will meet our expectations. Any change in the general seasonal variations which we cannot anticipate may result in materially adverse effects on our revenues, operations and businesses.

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:

- the seasonality and cyclical nature of both the semiconductor industry and the markets served by our customers;
- our customers adjustments in their inventory;
- the loss of a key customer or the postponement of orders from a key customer;
- the rescheduling and cancellation of large orders;
- our ability to obtain equipment, raw materials, electricity, water and other required utilities on a timely and economic basis;
- outbreaks of contagious diseases, including severe acute respiratory syndrome;
- 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.

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A decrease in demand for or selling prices of communication devices, consumer electronics and PCs 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 devices, consumer electronics and PCs. Percentages of our net operating revenues derived from our products used in communication devices, consumer electronics, PC, memory and other applications were 45.9%, 27.7%, 22.0%, 2.5% and 1.9%, respectively, in 2004. The communications and PC markets experienced a sudden and substantial market downturn and inventory correction beginning in the fourth quarter of 2000 until early 2003. This downturn resulted in a reduced demand for our services and hence decreased our revenues and earnings. Any significant decrease in the demand for communication devices, consumer electronics or PCs may further decrease the demand for our services. In addition, if the average selling prices of communication devices, consumer electronics or PCs decline significantly, we will be pressured to further reduce our selling prices, which may reduce our revenues and, therefore, reduce our margins significantly. As demonstrated by the downturn in demand for high technology products, market conditions can change rapidly, without apparent warning or advance notice. In such instances, our customers will experience inventory buildup and/or difficulties in selling their products and, in turn, will reduce or cancel orders for wafers from us. While these downturns are to be expected in the semiconductor business, their timing, severity and recovery cannot be predicted accurately or at all. When they occur, our business, profitability and price of the shares and ADSs are likely to suffer.

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

The prices that we can charge our customers for our services are significantly related to the overall worldwide supply of integrated circuits and semiconductor products. The overall supply of semiconductor products is based in part on the capacity of other companies, which is outside of our control. Historically, companies in the semiconductor industry have expanded aggressively during periods of increased demand such as was the case in early 2000. As a result, periods of overcapacity in the semiconductor industry have frequently followed periods of increased demand. In a period of overcapacity, if we are unable to offset the adverse effects of overcapacity through, among other things, our technology and product mix, we may have to lower the prices we charge our customers for our services and/or we may have to operate at significantly less than full capacity. Such actions could reduce our margin and weaken our financial condition and results of operations. Due to the decreased demand for semiconductors in 2001 and 2002, our average capacity utilization rate decreased from 100% in 2000 to 46.6% in 2001 and to 65.2% in 2002. With a general recovery in the worldwide semiconductor industry, we experienced continued growth in 2003 and 2004 with average capacity utilization rates of 84.8% and 90.8%, respectively. However, we cannot give any assurance that the increase in the demand for foundry services will not lead to over capacity again in the near future, which could materially adversely affect our revenues, earnings and margins.

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

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

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

The semiconductor industry is developing rapidly and the related technology is constantly evolving. If we do not anticipate the technology evolution and rapidly adopt new and innovative technology, we may not be able to produce sufficiently advanced products at competitive prices. There is a risk that our competitors may adopt new technology before we do, resulting in our loss of market share. For example, in 2003, we

were one of the first foundries to deliver working customer products using advanced 90-nanometer copper technology. This technology has been in volume production since the second quarter of 2004. We are currently actively developing 65-nanometer and 45-nanometer process technologies to significantly increase the competitive advantages of our customers. If we are unable on a timely basis to begin offering these products on a competitive basis, we may lose to our competitors providing similar technologies to customers, which may cause our net operating revenues to decline unless we can replace lost customers with new customers.

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

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

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

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

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

- technical competence;
- time-to-volume production and cycle time;
- time-to-market;
- research and development quality;
- available capacity;
- manufacturing yields;

customer service;

price;

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management expertise; and
strategic alliances.

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

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

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

maintain our capacity utilization, that is, the wafer-out quantity of 8-inch wafer equivalents divided by estimated total 8-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. With the general recovery of the worldwide semiconductor industry, we experienced continued growth in 2003 and 2004. 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.

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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 2004, our top ten end customers accounted for 55.1% of our net operating revenues. Our top two customers each accounted for 11% and 10% of our net operating revenues in 2004. We expect that we will continue to be dependent upon a relatively limited number of customers for a significant portion of our net operating revenues. We cannot assure you that our net operating revenues generated from these customers, individually or in the aggregate, will reach or exceed historical levels in any future period. Loss or cancellation of business from significant changes in scheduled deliveries to, or decreases in the prices of services sold to, any of these customers could significantly reduce our net operating revenues.

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

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

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

In March 2001, we entered into a foundry venture agreement with EDB Investments Pte Ltd., or EDB Investments, and Infineon Technologies AG, or Infineon, relating to the formation of UMCi to construct and operate a 12-inch wafer fab in Singapore s Pasir Ris Wafer Fab Park. Under the sale and transfer agreements entered in August 2003 and March 2004, we purchased all of the shares of UMCi held by Infineon and EDB Investments. Through subsequent purchases, UMCi became our wholly owned subsidiary in December 2004. The facilities of UMCi employ advanced process technology of 0.13-micron and 90-nanometer processes. UMCi began volume production in the first quarter of 2004 and currently has a monthly capacity of 12,000 12-inch wafers, which is equivalent to a monthly capacity of 27,000 8-inch wafers. For operational purposes, all of UMCi s operations and assets were transferred to our Singapore branch Fab 12i on April 1, 2005.

Doing business in Singapore involves risks related to infrastructure, changes in local laws and economic and political conditions. We have chosen Singapore as the location of the 12-inch fab described above in part to take advantage of economic incentives provided under the laws and policies of Singapore. Any change in these or other laws or policies or in the political or economic conditions in Singapore or the surrounding region may have an adverse effect on Fab 12i s business. In addition, due to the high cost of raw materials, labor and equipment in operating this new fab, 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. If Fab 12i fails to achieve sufficient volumes of production at or above acceptable yield rates, or if the cost of production exceeds expectation,

Fab 12i could result in substantial loss 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 on 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 on 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.

Our management is being investigated for violations of ROC securities laws and a breach of fiduciary duty in connection with our alleged involvement in the operation of Hejian Technology (Suzhou) Co., Ltd., a semiconductor manufacturer in China.

Hejian Technology (Suzhou) Co., Ltd., Hejian, a semiconductor manufacturer in Suzhou, China, was set up in December 2001. Soon after the establishment of Hejian, there were various rumors that Hejian was set up by us, which we denied immediately because we did not inject any capital into nor did we transfer any technology to Hejian. Our denials were widely reported in the local press. In addition, in April 2002, the Investment Commission of the Ministry of Economic Affairs of the Republic of China, which is the government authority in charge of approving investments and technology transfers by Taiwan companies to entities located in China, made inquiries on us regarding Hejian but did not find any violations of laws or regulations by us to that effect.

On February 15, 2005, the Hsinchu District Prosecutor s Office conducted a search of our facilities. We were informed verbally by the prosecutor s office at the time of the search (but without any written notice) that such search was necessary for the prosecutor s office s investigation regarding certain allegations of criminal offenses. The materials taken away by the prosecutor from the search revealed that the prosecutor was focusing on the alleged relationship between Hejian and us. We later learned that the major defendants named by the prosecutor include our Vice Chairman, and the person responsible for the management of Hejian, who is a former employee of our

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company. The prosecutor alleged that the defendants breached their fiduciary duty owed to us and violated ROC securities laws. Because this incident was widely reported by local news media, several of our shareholders filed a complaint against our Chairman with the Hsinchu District Prosecutor s Office.

We were only able to confirm that at least 25 defendants in total, including our Chairman and Vice Chairman, were investigated by the prosecutor after the prosecutor commenced interrogation in March 2005. The allegation made by the prosecutor is that these defendants collectively moved our company s funds, technology, equipment, customers orders and labor resources to Hejian without regulatory approval. Although we believe that no such acts were committed by any person, our Chairman and Vice Chairman had been informed in an interrogation in June 2005 by the prosecutor that they were being investigated for alleged violations of ROC securities laws and a breach of fiduciary duty, asserting that our management has acted against our shareholders interests by offering technical assistance to Hejian.

As of the date of this annual report, no charge had been filed by the prosecutor against any member of our management, including our Chairman or Vice Chairman. If our Chairman or Vice Chairman were to be found guilty as charged by the court, he will be required by ROC law to resign from our board, which would have a material adverse effect on our business and operations.

After the prosecutor instituted his investigation, the ROC Financial Supervisory Commission, or FSC, a regulatory authority that supervises securities, banking, futures, and insurance activities in Taiwan, began their investigation into any violation of ROC securities laws by us. In April 2005, our Chairman was fined with (1) in the amount of NT$2.4 million by the FSC for our delay in making public disclosure timely (within two days) regarding the information relating to Hejian which was resolved in our board meeting on March 4, 2005, and (2) in the amount of NT$0.6 million for our failure to disclose the information regarding Hejian s verbal promise of a fair return to us in connection with our assistance we had provided to Hejian. As a result of the imposition of the fines by the FSC, our company was also fined in the amount of NT$30,000 by the Taiwan Stock Exchange for a delay in making public disclosure relating to the same information relating to Hejian that was resolved in our board meeting on March 4, 2005. Although our Chairman and we have respectively appealed, we cannot assure you that either our Chairman or we would prevail on appeal.

We have been offered a 15% interest in a holding company that owns Hejian, but such investment may not materialize.

ROC law prohibits investment in China by Taiwanese makers of semiconductors without government approval. In March 2005, upon our request for a fair return in connection with our assistance to Hejian in the past, the Chairman of the holding company of Hejian offered us a 15% interest in the holding company of Hejian. Immediately after we received the offer, we filed an application with the Investment Commission for their executive guidance and disclosed our receipt of such offer to investors and the public. As of the date of this annual report, we have not entered into any agreement to formalize the terms and conditions in connection with the transfer of the 15% interest. Pending ROC regulatory approval, we will endeavor to include this 15% interest in our assets, which will then be reflected on our financial statements. We cannot assure you at present that the ROC government will approve our acceptance of this 15% interest, or if such acceptance is approved by the ROC government, the agreement that formalizes the terms and conditions will be on the terms that are favorable to us.

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

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

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

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

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

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

Investor confidence in us may be adversely impacted if we or our independent registered public accountants are unable to attest to the effectiveness of our internal control over financial reporting as of December 31, 2006 as required by Section 404 of the Sarbanes-Oxley Act of 2002.

We are subject to the reporting requirements of the Securities and Exchange Commission. The Securities and Exchange Commission, as directed by Section 404 of the U.S. Sarbanes-Oxley Act of 2002, adopted rules requiring U.S. public companies to include a report of management on the company s internal control over financial reporting in its annual report on Form 10-K or Form 20-F, as the case may be, that contains an assessment by management of the effectiveness of the company s internal control over financial reporting. In addition, the company s independent registered public accountants must attest to and report on management s assessment of the effectiveness of the company s internal control over financial reporting. These requirements will first apply to our annual report on Form 20-F for the fiscal year ending on December 31, 2006. Our management may not conclude that our internal controls over financial reporting are effective. Moreover, even if our management does conclude that our internal controls over financial reporting are effective, if the independent accountants are not satisfied with our internal controls, the level at which our controls are documented, designed, operated or reviewed, or if the independent accountants interpret the requirements, rules or regulations differently from us, they may decline to attest to our management s assessment or may issue a report that is qualified. Any of these possible outcomes could result in a loss of investor confidence in the reliability of our financial statements, which could negatively impact the market price of our ADSs.

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

Our financial statements are prepared under ROC GAAP, which differ in certain significant respects from US GAAP. For example, ROC GAAP does not require the recognition of the market value of our shares distributed as bonuses to our employees in the calculation of net income. In addition, we have performed impairment test under US GAAP, which was not required to apply to financial statements prior to 2005 under ROC GAAP. As a result, our net income (loss) in 2002, 2003 and 2004 under US GAAP was NT$294 million, NT$10,476 million and NT$(4,749) million (US$(150) million), respectively, as compared to net income under ROC GAAP of NT$7,072 million, NT$14,020 million and NT$31,843 million (US$1,003 million) in 2002, 2003 and 2004, respectively. For a discussion of these differences, see Note 33 to our audited

consolidated financial statements included elsewhere in this annual report.

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Any future outbreak of contagious diseases may materially and adversely affect our business and operations, as well as our financial condition and results of operations.

Any future outbreak of contagious diseases, such as severe acute respiratory syndrome or avian influenza, may disrupt our ability to adequately staff our business and may generally disrupt our operations. If any of our employees is suspected of having contracted any contagious disease, we may under certain circumstances be required to quarantine such employees and the affected areas of our premises. As a result, we may have to temporarily suspend part of or all of our operations. Furthermore, any future outbreak may restrict the level of economic activity in affected regions, including Taiwan, which may also adversely affect our business and prospects. As a result, we cannot assure you that any future outbreak of contagious diseases would not have a material adverse effect on our financial condition and results of operations.

Risks Relating to Manufacturing

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

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

- capacity constraints due to changes in product mix or the delayed delivery of equipment critical to our production, including scanners, 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;
- manufacturing execution system or automatic transportation system failure;
- changing or upgrading our process technologies; and
- raw materials shortages and impurities.

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

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

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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 migration to more advanced process technologies, such as 65- and 45-nanometer process technology;
- the joint development with vendors for more powerful tools (both in production and inspection) needed in the future to meet advanced process technology requirements; and
- the adoption of new materials in our manufacturing processes.

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

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

We depend on our suppliers for raw materials. To maintain competitive manufacturing operations, we must obtain from our suppliers, in a timely manner, sufficient quantities of quality materials at acceptable prices. Although we source our raw materials from several suppliers, a small number of these suppliers account for a substantial amount of our supply of raw materials because of the consistent quality of these suppliers wafers. For example, in 2004, we purchased a majority of our silicon wafers from three suppliers, Shin-Etsu Handotai Corporation, or Shin-Etsu, MEMC Electronic Materials, Inc. and Formosa Komatsu Silicon Corporation. We do not have long-term contracts with most of our suppliers. From time to time, our suppliers have extended lead time or limited the supply of required materials to us because of capacity constraints. Consequently, from time to time, we have experienced difficulty in obtaining the quantities of raw materials we need on a timely basis.

In addition, from time to time we may reject materials that do not meet our specifications, resulting in declines in output or manufacturing yields. We cannot assure you that we will be able to obtain sufficient quantities of raw materials and other supplies in a timely manner. If the supply of materials is substantially diminished or if there are significant increases in the costs of raw materials, we may be forced to incur additional costs to acquire sufficient quantities of raw materials to sustain our operations, which may increase our marginal costs and reduce profitability.

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

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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. 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 business interruption due to fire is consistent with semiconductor industry practice, our insurance coverage is subject to deductibles and self-insured retention and may not be sufficient to cover all of our potential losses. If any of our fabs were to be damaged or cease operations as a result of a fire, it would temporarily reduce manufacturing capacity and reduce revenues.

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

Most of our assets and many of our customers and suppliers are located in the Hsinchu Science Park. We and these customers and suppliers are dependent on the infrastructure supporting the Park. Our operations and the operations of our customers and suppliers are vulnerable to earthquakes, floods, droughts, power losses and similar events that affect the Hsinchu Science Park. The occurrence of any of these events could interrupt our services and cause severe damages to wafers in process. For instance, our operations stopped completely for five days in September 1999 largely because of a power outage caused by a severe earthquake. After the stoppage, we spent several days to ramp up to full operations. Most recently, in November 2004, Taiwan experienced significant earthquakes registering up to 6.7 on the Richter scale. We did not experience any significant damage as a result of these earthquakes. We cannot guarantee that future earthquakes will not cause material damage to our facilities or property, including work in progress, or cause significant business interruptions. Although we maintain property and business interruption insurance for such risks, there is no guarantee that future damages or business loss from earthquakes will be covered by such insurance, that we will be able to collect from our insurance carriers, should we choose to claim under our insurance policies, or that such coverage will be sufficient. In addition, shortages or suspension of power supplies to the Hsinchu Science Park have occasionally occurred, and have disrupted our operations. In addition, the Hsinchu area experienced a severe drought in 2001 and is likely to experience other droughts in the future. While the semiconductor manufacturing process uses large amounts of water, if a drought does occur and the authorities are unable to source water from alternative sources in sufficient quantity, we may be required to temporarily shut down or substantially reduce the operations of our fabs located in the Hsinchu Science Park, which would seriously affect our operations.

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

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

Political, Economic and Regulatory Risks

We face substantial political risks associated with doing business in Taiwan, particularly due to the tense relationship between the ROC and the PRC that could negatively affect the value of your investment.

Our principal executive offices and most of our assets and operations are located in Taiwan. Accordingly, our business, financial condition and results of operations and the market price of our common shares and the ADSs may be affected by changes in ROC 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 has a unique international political status. Since 1949, Taiwan and the Chinese mainland have been separately governed. The PRC claims that it is the sole government in China and that Taiwan is part of China. Although significant economic and cultural relations have been established during recent years between the ROC and the

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PRC, relations have often been strained. The PRC government has refused to renounce the use of military force to gain control over Taiwan. Furthermore, the PRC government passed an Anti-Secession Law in March 2005, which authorizes non-peaceful means and other necessary measures should Taiwan move to gain independence from the PRC. Past developments in relations between the ROC and the PRC have on occasion depressed the market prices of the securities of companies in the ROC. Relations between the ROC and the PRC and other factors affecting military, political or economic conditions in Taiwan could materially and adversely affect our financial condition and results of operations, as well as the market price and the liquidity of our securities.

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

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

We, like many ROC technology companies, have benefited from substantial tax incentives provided by the ROC government. In 2004, such incentives resulted in a tax credit in the amount of NT$4,388 million (US$138 million). If these incentives are curtailed or eliminated, our net income after tax may decrease substantially.

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

Our shares are listed on the Taiwan Stock Exchange. The trading price of our ADSs may be affected by the trading price of our shares on the Taiwan Stock Exchange and the economic performance of Taiwan. The Taiwan Stock Exchange is smaller and, as a market, more volatile than the securities markets in the United States and a number of European countries. The Taiwan Stock Exchange has experienced substantial fluctuations in the prices and volumes of sales of listed securities, and there are currently limits on the range of daily price movements on the Taiwan Stock Exchange. In the past 15 years, the Taiwan Stock Exchange Index peaked at 10,393.59 in February 2000 and subsequently fell to a low of 3,411.68 in September 2001. During 2004, the Taiwan Stock Exchange Index peaked at 7,034.10 on March 4, 2004 and reached a low of 5,316.87 on August 4, 2004. On May 31, 2005, the Taiwan Stock Exchange Index closed at 6,011.56, and the daily closing value of our shares was NT$21.20 per share. The Taiwan Stock Exchange is particularly volatile during times of political instability, such as when relations between Taiwan and the PRC 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, or NYSE, to May 31, 2005, daily reported closing prices of our ADSs ranged from US$10.07 per ADS to US$2.65 per ADS. The market price of the ADSs may also be affected by general trading activities on the U.S. stock exchanges, which recently have experienced significant price volatility with respect to shares of technology companies. Fluctuation in interest rates and other general economic conditions may also have an effect on the market price of the ADSs.

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

More than half of our net operating revenues are denominated in currencies other than New Taiwan dollars, primarily U.S. dollars and Japanese Yen. On the other hand, more than half of our costs of direct labor, raw materials and overhead are incurred in New Taiwan dollars. Although we hedge a portion of the resulting net foreign exchange position through the use of forward exchange contracts, we are still affected by fluctuations in exchange rates among the U.S. dollar, the Japanese Yen, the New Taiwan dollar and other currencies. Any significant

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fluctuation in exchange rates may be harmful to our financial condition. In addition, fluctuations in the exchange rate between the U.S. dollar and the New Taiwan dollar will affect the U.S. dollar value of the ADSs and the U.S. dollar value of any cash dividends we pay, which could have a corresponding effect on the market price of the ADSs.

Risks Related to the Shares and ADSs and Our Trading Markets

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

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

distribution of share dividends or free distribution of our shares;

exercise of the preemptive rights of ADS holders applicable to the shares evidenced by ADSs in the event of capital increases for cash; or

if permitted under the deposit agreement and the custody agreement, purchases of our shares in the domestic market in Taiwan by the investor directly or through the depositary or the surrender of shares under the possession of investors and then delivery of such shares to the custodian for deposit into our ADS program, subject to the following conditions: (a) the 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 ROC SFB, plus any ADSs issued pursuant to the events described above; and (b) this deposit may only be made to the extent previously issued ADSs have been withdrawn.

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

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

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

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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 U.S. corporation.

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

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

Non-ROC persons wishing to withdraw shares represented by their ADSs from our ADS program and hold our shares represented by those ADSs are required to, among other things, appoint a local agent or representative with qualifications set forth by the ROC SFB to open a securities trading account with a local brokerage firm, pay ROC taxes, remit funds and exercise shareholders rights. In addition, the withdrawing holders are also required to appoint a custodian bank with qualifications set forth by the Ministry of Finance to hold the securities in safekeeping, make confirmations, settle trades and report all relevant information. Without making this appointment and opening of the accounts, the withdrawing holders would not be able to subsequently sell our shares withdrawn from a depositary receipt facility on the Taiwan Stock Exchange. Under ROC law and regulations, citizens of the PRC are not permitted to hold our shares or withdraw shares represented by ADSs from our ADS program unless they obtain the approval from the competent authority. Due to the absence of relevant rules or guidelines, PRC persons are currently not able to conduct investments in the ROC.

You may not be able to enforce a judgment of a foreign court in the ROC

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

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

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

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

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

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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 May 1980 and our shares were listed on the Taiwan Stock Exchange in 1985. Our principal executive office is located at No. 3 Li-Hsin Road II, Hsinchu Science Park, Hsinchu, Taiwan, Republic of China, and our telephone number is 886-3-578-2258. Our Internet website address is www.umc.com. The information on our website does not form part of this annual report. Our ADSs have been listed on the NYSE under the symbol UMC since September 19, 2000.

We are one of the world s largest independent semiconductor foundries and a leader in semiconductor manufacturing process technologies. Our primary business is the manufacture, or fabrication, of semiconductors, sometimes called chips or integrated circuits, for others. Using our own proprietary processes and techniques, we make chips to the design specifications of our many customers. Our company maintains a diversified customer base across industries, including communication devices, consumer electronics, computer and memory, while continuing to focus on manufacturing for high growth, large volume applications, including networking, telecommunications, Internet, multimedia, PCs and graphics. We sell and market mainly wafers which in turn are used in a number of different applications by our customers. Percentages of our net operating revenues derived from our products used in communication devices, consumer electronics, PC, memory and other applications were 45.9%, 27.7%, 22.0%, 2.5% and 1.9%, respectively, in 2004.

We focus on the development of leading mass-producible manufacturing process technologies. We were among the first in the foundry industry to go into commercial operation with such advanced capabilities as producing integrated circuits with line widths of 0.25, 0.18, 0.15 and 0.13 micron. Moreover, we have developed our own 90-nanometer copper technology with both FSG and low-k dielectric insulation as well as copper metal wiring layers. In 2003, we were one of the first foundries to deliver working customer products using advanced 90-nanometer copper technology. This technology has been in volume production since the second quarter of 2004 after passing several full-product certifications, including various reliability, burn-in and packaging criteria. Our 0.18 micron and more advanced technologies have contributed to approximately 54.2% of our total net operating revenues in 2004, compared to 41.1% in 2003. We believe such technologies will better serve the needs of advanced customer chip designs with high performance and low power consumption. Our research and development team currently focuses on the development of 65-nanometer process technology and has dedicated resources to the research of 45-nanometer process technology. Areas of research topics include strained silicon devices, 3-dimensional transistors, SOI, advanced modules such as high-k dielectric insulation and metal gate, raised source and drain, SiGe refill process, nickel silicide, advanced metal interconnect schemes and advanced optical proximity correction. We believe our superior process technologies will enable us to continue to offer our customers significant performance benefits for their products, faster time-to-market production, reasonable cost and other competitive advantages.

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

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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. As of March 31, 2005, Fab 12A had a monthly capacity of 22,000 12-inch wafers, equivalent to a monthly capacity of 49,500 8-inch wafers. We also have a controlling interest in UMCJ, formerly known as Nippon Foundry Inc., the first dedicated foundry in Japan, which owns one 8-inch fab in Japan. Our interest in UMCJ gives our company proximity to some of the largest integrated device manufacturers in the world, such as Sony Corporation, or Sony, and allows our company to offer them local outsourcing of semiconductor production. In December 2004, UMCi, which operates a 12-inch fab in Singapore s Pasir Ris Wafer Fab Park, became our wholly-owned subsidiary. The facilities of UMCi employ advanced process technologies including 0.13-micron and 90-nanometer processes. UMCi began volume production in the first quarter of 2004 and currently has a monthly capacity of 12,000 12-inch wafers, which is equivalent to a monthly capacity of 27,000 8-inch wafers. For operational purposes, all of UMCi s operations and assets were transferred to our Singapore branch Fab 12i on April 1, 2005.

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

Our primary end customers, in terms of our sales revenues, include premier integrated device manufacturers, such as Advanced Micro Devices, Inc., or AMD, Infineon, LSI Logic Corp., Philips Semiconductors, or Philips, Sony, STMicroelectronics Inc., or STMicroelectronics, and Texas Instruments, and leading fabless design companies, such as ATI Technologies Inc., or ATI, Conexant Systems Inc., or Conexant Systems, MediaTek Corp., or MediaTek, Novatek Microelectronics Corp. Ltd., or Novatek, Qualcomm Incorporated, or Qualcomm, Realtek Semiconductor Corp., or Realtek, and Xilinx. For 2004, our company s top ten end-customers accounted for 55.1% 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.

Please refer to Item 5. Operating and Financial Review and Prospectus B. Liquidity and Capital Resources for a discussion of our capital expenditures in the past three years and the plan for the current year.

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 that 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 products 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.

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Continue to Focus on High Growth Applications and Customers. We believe one measure of a successful foundry company is the quality of its customers. We focus our sales and marketing on customers who are established or emerging leaders in industries with high growth potential. Our customers include industry leaders such as AMD, ATI, Infineon, MediaTek, Oki, Qualcomm, Realtek, SanDisk Corporation, or SanDisk, Sharp Microelectronics of the Americans, or 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 by actively pursuing customers in the PC-related area in order to maintain a balanced exposure to different applications. We believe these efforts strengthen our relationships with our customers and enhance our reputation in the semiconductor industry as a leading foundry service provider.

Maintain Our Leading Position in Mass-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 attract and retain customers. Our reputation for technological excellence has attracted both established and emerging leaders in the semiconductor industries who work closely with us on technology development. In addition, we believe our superior processing expertise has enabled us to provide flexible production schedules to meet our customers particular needs. We plan to continue building 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 technology. Our extensive experience in the 0.13-micron process technology has helped smooth our transition to 90-nanometer production. Many of the materials and techniques, including copper interconnects and low-k dielectric materials, that were first used in connection with the 0.13-micron process technology also apply to the 90-nanometer copper technology. Our 90-nanometer copper technology marks further advance in our technology achievements, incorporating up to nine copper metal layers, triple gate oxide and other advanced features. In 2003, we were one of the first foundries to deliver working customer products using advanced 90-nanometer copper technology. This technology has been in volume production since the second quarter of 2004. We believe our progress in the development of 90-nanometer copper technology will benefit our customers in the fields of computers, communications, 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 the rate of return of our research and development with 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 volume production. We believe that to develop the earliest and most advanced semiconductor technology without regard to its potential for near term volume production may prove costly to our operations and would not strengthen 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

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addition, 12-inch wafer facilities present a more cost-effective solution in achieving an economic scale of production. We intend to carefully monitor current market conditions in order to optimize the timing of our capital spending. In 2002, we began volume production at Fab 12A, in Tainan, Taiwan. In addition, UMCi, which operates a 12-inch fab in Singapore s Pasir Ris Wafer Fab Park, began its volume production in the first quarter of 2004, employing advanced process technologies including 0.13-micron and 90-nanometer processes. We are currently evaluating opportunities to expand our wafer fabrication business into the PRC. Our initial budget for purchases of semiconductor manufacturing equipment for 2005 is approximately US$1 to 1.5 billion. Our efforts in increasing our production capacity raised our total production capacity from approximately 257,000 8-inch wafer equivalents per month in December 2002 to approximately 355,000 8-inch wafer equivalents per month in December 2004. Our annual total production capacity reached 3,528,000 8-inch wafer equivalents in 2004.

Operate as a SoC Solution Foundry. We plan to operate as a SoC solution foundry. This plan involves collaborating closely with customers as well as partners throughout the entire SoC technology supply chain, including equipment, Electronic Design Automation tool and IP vendors, to work synergistically towards SoC solutions for each customer. Our implementation of the plan has resulted in a broad range of options available to SoC designers, including silicon-validated reference flows, in-depth IP portfolio and know-how and extensive libraries of IPs, to better provide value to their customers. Capitalizing on our advanced process technology, extensive package and test capabilities and state-of-art 300mm manufacturing facilities, we believe we are in a better position to deliver integrated SoC solutions for customers than most of our competitors.

B. Business Overview

Manufacturing Facilities

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 technology, 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 as of December 31, 2004.

	Fab 6A	Fab 8AB	Fab 8C	Fab 8D	Fab 8E	Fab 8F	Fab 8S(5)	Fab 12A	UMCJ	UMCi(6)
Commencement of volume production	1989	1995 for the module formerly named Fab 8A; 1996 for the module formerly named Fab 8B	1998	2000	1998	2000	2000	2002	1996	2004
Estimated full capacity[1][2]	29,000 wafers per	70,000 wafers per month	35,000 wafers	25,000 wafers per month	34,000 wafers per month	32,000 wafers per month	24,000 wafers per month	47,000 wafers per month	32,000 wafers per	27,000 wafers

	month		per month						month	per month
Wafer size	6-inch (150mm)	8-inch (200mm)	8-inch (200mm)	8-inch (200mm)	8-inch (200mm)	8-inch (200mm)	8-inch (200mm)	12-inch (300mm)	8-inch (200mm)	12-inch (300mm)
Clean room area[3]	4,986 sq. meters	25,029 sq. meters	19,764 sq. meters	16,589 sq. meters	21,576 sq. meters	13,812 sq. meters	8,400 sq. meters	20,377 sq. meters	8,800 sq. meters	17,892 sq. meters
Type of clean rooms [4]	Class-10 @0.1um, clean tunnel	Class-0.1 @0.1um, clean tunnel	Class-0.1 @0.1um, clean tunnel	Class100 @0.3um, SMIF/mini-environment	Class100 @0.3um, SMIF/mini-environment	Class 100 @0.3um, SMIF/mini-environment	Class 100 @0.3um, SMIF/mini-environment	Class 100 @0.3um, SMIF/mini-environment	Class-0.1 @0.1um, clean tunnel	Class 100 @0.3um, SMIF/mini-environment

(1) Measured in 8-inch wafer equivalents.

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(2) 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.

(3) Area represents the total area of clean rooms within a fab.

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

(5) Formerly SiS Microelectronics Corporation, or SiSMC, which we acquired in July 2004.

(6) All of UMCi s operations and assets were transferred to our Singapore branch Fab 12i on April 1, 2005.

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. Our land in the Hsinchu and Tainan Science Parks is leased from the ROC government.

Location	Size (Land/Building)	Primary Use	Owned or Leased (Land/Building)
	(in square meters)		
Fab 6A, 10 Innovation 1st Rd., Hsinchu Science Park, Hsinchu, Taiwan 308, ROC	27,898/34,981	6-inch wafer production	Leased (expires in February 2007)/Owned
Fab 8AB, 3 Li-Hsin 2nd Rd., Hsinchu Science Park, Hsinchu, Taiwan 300, ROC.	62,114/81,751	8-inch wafer production	Leased (expires in March 2014)/Owned
Fab 8C, 6 Li-Hsin 3rd Rd., Hsinchu Science Park, Hsinchu, Taiwan 300, ROC	9,007/28,984	8-inch wafer production	Leased (expires in March 2016)/Owned
Fab 8D, 8 Li-Hsin 3rd Rd., Hsinchu Science Park, Hsinchu, Taiwan 300, ROC	9,089/29,181	8-inch wafer production	Leased (expires in March 2016)/Owned
Fab 8E, 17 Li-Hsin Rd., Hsinchu Science Park, Hsinchu, Taiwan 300, ROC	35,000/74,067	8-inch wafer production	Leased (expires in February 2016)/Owned
Fab 8F, 3 Li-Hsin 6th Rd., Hsinchu Science Park, Hsinchu, Taiwan 300, ROC.	24,180/65,744	8-inch wafer production	Leased (expires in February 2018)/Owned
Fab 8S(1), 16 Creation 1st Rd., Hsinchu Science Park, Hsinchu, Taiwan 308, ROC.	20,404,/65,614	8-inch wafer production	Leased (expires in December 2023)/Owned
Fab 12A, 18 Nan-Ke 2nd Rd., Tainan Science Park, Sinshih, Tainan, Taiwan 744, ROC.	56,000/165,607	12-inch wafer production	Leased (expires in October 2017)/Owned
UMCJ, 1580, Yamamoto, Tateyama-City, Chiba, Japan	388,402/21,420	8-inch wafer production	Mostly leased (expires in June 2049)/Owned

UMCi(2), 3 Pasir Ris Drive 12 Singapore 519528	84,372/141,787	12-inch wafer production	Leased (expires in March 2031)/Owned
United Tower, 3 Li-Hsin 2nd Rd., Hsinchu Science Park, Hsinchu, Taiwan 300, ROC.	5,737/85,224	Administration office	Leased (expires in March 2014)/Owned
Tunhwa South Rd. Office, 3F, 76, Sec. 2, Tunhwa S. Rd., Taipei, Taiwan 106, ROC	166/2,221	Administration office	Owned/Owned
Testing Building, 1, Chin-Shan, St. 7, Hsinchu, Taiwan 300, ROC.	10,762/41,318	Leased to several companies	Owned/Owned

(1) Formerly SiSMC, which we acquired in July 2004.

(2) All of UMCi s operations and assets were transferred to our Singapore branch Fab 12i on April 1, 2005.

Process Technology

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

The continued enhancement of our process technologies has enabled us to manufacture semiconductor devices with smaller geometries, allowing us to produce more dice on a given wafer. For example, in 1997 we became one of the first foundries to produce semiconductor products using 0.25-micron process technology, and in 1999 we were among the first foundries to offer 0.18-micron process services. In addition, we pioneered the use of copper interconnect metallurgies for the dedicated foundry industry. These copper interconnect metallurgies allow better

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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 copper technology. Our 90-nanometer process marks further advance in our technology achievements, incorporating up to nine copper metal layers, triple gate oxide and other advanced features and using chrom-less phase-shift masks. In 2003, we were one of the first foundries to deliver working customer products using advanced 90-nanometer copper technology. This technology has been in volume production since the second quarter of 2004 after passing several product certifications. We believe our progress in the development of 90-nanometer copper technology continues to benefit our customers in the fields of computers, communications, 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 2004, and the estimated annual full capacity of each fab, actual total annual output and capacity utilization rates for 2002, 2003 and 2004:

	Year Ended December 31, 2004 Range of Process Technologies	Year Ended December 31,		
		2002	2003	2004
		(in thousands of 8-inch wafer equivalents, except percentages)		
	(in microns)			
Fab				
6A	0.5	349	352	346
8AB	0.5 to 0.25	853	801	796
8C	0.35 to 0.15	355	325	386
8D	0.25 to 0.09	214	238	256
8E	0.5 to 0.18	376	354	401
8F	0.25 to 0.15	312	341	349
8S[(1)]	0.35 to 0.15			131
12A	0.18 to 0.065	119	234	392
UMCJ	0.35 to 0.15	400	360	370
UMCi[(2)]	0.13 to 0.09			101
Total estimated capacity		2,978	3,005	3,528
Total output (actual)		1,941	2,549	3,205
Capacity utilization		65.2%	84.8%	90.8%

(1) Formerly SiSMC, which we acquired in July 2004.

(2) Began volume production in the first quarter of 2004. All of UMCi s operations and assets were transferred to our Singapore branch Fab 12i on April 1, 2005.

The table below sets forth a breakdown of number and percentage of wafer output by process technologies for 2002, 2003 and 2004. We began commercial operation of our 0.13-micron and 90-nanometer process technologies in the first quarter of 2002 and the second quarter of 2003, respectively.

	Year Ended December 31,					
	2002		2003		2004	
	(in thousands of 8-inch wafer equivalents, except percentages)					
Technology						
90 nanometers			1	0.0%	39	1.2%
0.13 micron	27	1.4%	130	5.1	313	9.8
0.15 micron	75	3.9	124	4.9	327	10.2
0.18 micron	247	12.7	489	19.2	627	19.6
0.25 micron	429	22.1	547	21.5	508	15.9
0.35 micron	735	37.9	855	33.5	944	29.4
0.50 micron or higher	428	22.0	403	15.8	447	13.9
Total	1,941	100.0%	2,549	100.0%	3,205	100.0%

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

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

Capacity and Utilization

The fabs in Taiwan we own directly are named Fab 6A, Fab 8AB, Fab 8C, Fab 8D, Fab 8E, Fab 8F and Fab 8S, all of which are located in the Hsinchu Science Park in Taiwan, and Fab 12A, which is located in the Tainan Science Park in Taiwan. Fab 8AB consists of two modules. 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 Semiconductor Corp. to establish state-of-the-art 8-inch fabs. We owned an approximately 40% equity interest in each of these foundry ventures. Assisted by capital contributions made by our partners, we were able to expand our capacity quickly while reducing our capital risk. Three of our fabs, a fab formerly named Fab 8B (currently part of Fab 8AB), Fab 8C and Fab 8D, were established under these foundry ventures and began commercial production in 1996, 1998 and 2000, respectively. The commencement of commercial operations of Fab 8D was delayed because of a fire in 1997 that substantially damaged the fab. In 1998, we obtained management control over UTEK Semiconductor, a publicly listed company in Taiwan, which operated an 8-inch fab that was later renamed Fab 8E, to further increase our capacity. Our capacity increased further in the first quarter of 1999 when we acquired an approximate 52.3% in equity interest and management control of UMCJ, which owns an 8-inch fab in Japan. 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 22,000 12-inch wafers per month, equivalent to 49,500 8-inch wafers per month. In addition, in March 2001, we entered into a foundry venture agreement with EDB Investments and Infineon to form UMCi to construct and operate a 12-inch fab in Singapore s Pasir Ris Wafer Fab Park. Pursuant to the sale and transfer agreements entered in August 2003 and March 2004, we purchased all of the UMCi shares held by Infineon and EDB Investments. Through subsequent purchases, UMCi became our wholly owned subsidiary in December 2004. The facilities of UMCi, including its 12-inch fab, employ advanced process technologies including 0.13-micron and 90-nanometer processes. UMCi began volume production in the first quarter of 2004 and currently has a monthly capacity of 12,000 12-inch wafers, which is equivalent to a monthly capacity of 27,000 8-inch wafers. For operational purposes, all of UMCi s operations and assets were transferred to our Singapore branch Fab 12i on April 1, 2005.

Furthermore, at the end of 2003, our capacity utilization rate reached 100%, making it impossible for us to meet the demand of our global customers. In view of the timing and resources required in building a new fab, we believed that an acquisition of SiS Microelectronics Corporation, or SiSMC, an 8-inch wafer fab, was the most effective method to quickly relieve the production bottleneck and maximize growth in response to the strong recovery in the semiconductor industry. Consequently, we acquired SiSMC through a share swap in July 2004 and renamed it as Fab 8S. Fab 8S operates an 8-inch wafer fab with a current capacity by 24,000 wafers per month.

Historically, the downturn we experienced from the beginning of the fourth quarter of 2000 until early 2003 had a material adverse effect on industry-wide utilization rates including ours. Due to the decreased demand for semiconductors in 2001 and 2002, our average capacity utilization rate decreased from 100% in 2000 to 46.6% in 2001 and to 65.2% in 2002. With a general recovery in the worldwide semiconductor industry, our average capacity utilization rate increased to 84.8% in 2003 and 90.8% in 2004.

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Equipment

Because the effectiveness and efficiency of our manufacturing processes greatly depend on the quality and technology of our equipment, we generally purchase equipment that complements our existing process technology and anticipated advanced process technology. The principal equipment we use to manufacture semiconductor devices are scanners/steppers, cleaners and track equipment, inspection equipment, etchers, furnaces, wet stations, strippers, implanters, sputters, CVD equipment, probers and testers. Other than an immaterial amount of equipment we lease for the use of our fabs in Taiwan, we own all of our equipment.

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

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

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

Raw Materials

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

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

The most important raw material used in our production processes is silicon wafer, which is the basic raw material from which integrated circuits are made. The principal suppliers for our wafers are Shin-Etsu, MEMC Electronic Materials, Inc. and Formosa Komatsu Silicon Corporation. 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 85% of the water that we use during the manufacturing process. We also

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use substantial amounts of dual loop electricity supplied by Taiwan Power Company in the manufacturing process. We maintain back-up generators that are capable of providing adequate amounts of electricity to maintain the required air pressure in our clean rooms in case of power interruptions. We believe our back-up devices are adequate in preventing business interruptions caused by power outages and emergency situations.

Quality Control

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

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

Our policy is to implement quality control measures to ensure the delivery of consistent high yield production with reliable performance for our customers. We test and monitor the 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. Our quality control is also continually enhanced through our top down annual Policy Management and bottom up Total Quality Management (TQM) activities, involving various independent quality control teams from our various foundries: Quality Control Circle, Quality Improvement and Innovation Team, Employee Suggestion System and Project Management Team. We also have a Quality and Reliability Assurance Division, which consists of more than 367 engineers, technicians and other staff as of March 31, 2005. 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 queries. In addition, our efforts to observe benchmark and best practices among fabs in the industry have also contributed to the improvement of our overall quality control procedures.

All our Taiwan-based fabs are ISO/TS 16949:2002 certified and also registered under the Year 2000 version of ISO9001. ISO/TS 16949:2002 sets the criteria for developing a fundamental quality management system. It focuses on continual improvement, defect prevention and the reduction of variation and waste. The Year 2000 version of ISO9001 emphasizes customer satisfaction and resource management.

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.

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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 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 (which merged with ARM Limited in December 2004), Faraday Technology Corp., or Faraday Technology, MIPS Technologies International, Virage Logic Corporation and Virtual Silicon Technology have utilized our Silicon Shuttle program. In our ASIC Plus program, we coordinate with leading suppliers of intellectual property, design and ASIC services to ensure their offerings are available to our customers in an integrated, easy to use manner which matches customers need to our technologies.

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

Wafer Fabrication. As described above, our manufacturing service provides all aspects of the wafer fabrication process by utilizing a full range of advanced process technologies, including 0.15-micron and 0.13-micron processes and copper interconnection technology. We have also made significant progress in developing the advanced 90-nanometer copper technology and the SoC process technology. We have been shipping products based on our 90-nanometer copper technology to our customers 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 Testing. 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., or Siliconware, and Advanced Semiconductor Engineering Inc. in Taiwan. After final testing, the semiconductors are shipped to our customers designated locations.

Customers and Markets

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

	Year Ended December 31,		
	2002	2003	2004

Customer Type			
Fabless design companies	74.0%	66.5%	64.8%
Integrated device manufacturers	25.6	33.5	35.2
System companies	0.4	0.0	0.0
Total	100.0%	100.0%	100.0%

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We categorize sales geographically based on the country or region in which the end customer is headquartered, which may differ from our revenues from the countries to which we actually sell or ship our products. The following table presents a geographic breakdown of our net operating revenues during the last three years:

	Year Ended December 31,		
	2002	2003	2004
Region			
North America	35.1%	36.1%	41.5%
Asia (excluding Japan)	43.2	36.4	32.5
Europe	14.1	14.9	15.9
Japan	7.6	12.6	10.1
Total	100.0%	100.0%	100.0%

Although we are not dependent on any single customer, a significant portion of our net operating revenues have been generated from sales to a few customers. Our top 10 end-customers accounted for approximately 55.1% of our net operating revenues in 2004. Our top two customers each accounted for 11% and 10% of our net operating revenues in 2004. 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.

We sell and market mainly wafers which in turn are used in a number of different applications by our customers. Percentages of our net operating revenues derived from our products used in communication devices, consumer electronics, PC, memory and other applications were 45.9%, 27.7%, 22.0%, 2.5% and 1.9%, respectively, in 2004.

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

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

For IP offerings, we work with several leading IP vendors from digital, memory and analog fields in the semiconductor industry, such as ARM Limited, Artisan Components (which merged with ARM Limited in December 2004), Faraday Technology, Virage Logic Corporation, Rambus and Virtual Silicon Technology to deliver quality IP blocks that have been silicon validated using our advanced processes for our customers. Our alliance programs with major electronic design automation vendors, such as Cadence, Magma, Mentor and Synopsys, provide our customers with seamless digital/analog reference design procedures and easy-to-use design solutions. For design services, partners such as Faraday Technology are able to provide turnkey solutions from design to production. By continuously enhancing our IP offerings, reference design

procedures and design services through collaboration with major vendors, we aim to provide complete, accurate and user-friendly SoC solutions to our customers.

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

In 1996, we introduced our original on line service, through which we provided our customers secure access via the Internet to critical manufacturing data, including process step location, start date, estimated ship-out date and

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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;
- collecting customer engineering requests;
- gathering and downloading data for design purposes; and
- accessing online and in real time the same manufacturing data used by our fab engineers.

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

To enhance our ability to provide online services to our customers, we are currently in various stages of implementing a business project that provides customers with design support through our help desk and IP/Library information and responses to their mask tooling requests. Moreover, we continuously enrich the content of UMC customers services website and provide customers direct-to-system links over the Internet (B2B) with proprietary technology to efficiently meet our customers requests.

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

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

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

Competition

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

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

Intellectual Property

Our success depends in part on our ability to obtain patents, licenses and other intellectual property rights covering our production processes and activities. To that end, we have acquired certain patents and patent licenses and intend to continue to seek patents on our production processes. As of March 31, 2005, we held 2,827 U.S. patents and 4,901 patents issued outside of the United States.

Our ability to compete also depends on our ability to operate without infringing on 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.

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

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

Research Development

We spent NT$7,368 million, NT$5,859 million and NT$7,364 million (US$232 million) in 2002, 2003 and 2004, respectively, on research and development, which represented 9.8%, 6.1% and 5.7%, respectively, of our net operating revenues for these periods. We plan to continue to invest significant amounts on research and development in 2005 with the goal of maintaining a leading position in the development of advanced process technologies. Our research and development efforts have recently allowed us to provide our customers access to certain advanced process technology, such as 90-nanometer copper technology for volume production and 65- and 45-nanometer process technology for early

engineering prototypes, prior to the implementation of those advanced process technologies by most integrated device manufacturers and our competitors. We intend to sustain our commitment to these efforts.

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Our research and development efforts have focused primarily on improving the efficiency and production yields of our manufacturing services. From time to time, we jointly develop new technology with universities and research institutions. The primary target of our research and development efforts in the next few years will be focused on the volume production of 65-nanometer, 45-nanometer and new and improved SoC foundry processes. As of March 31, 2005, we employed 565 professionals in our research and development activities. In addition, other management and operational personnel are also involved in research and development activities but are not separately identified as research and development professionals. We also have created in-house inventions and know-how. We were issued a substantial number of patents in 2002, 2003 and 2004, most of which are semiconductor-related.

Our Investments

Pursuant to our investment guidelines, we plan to maintain our shareholdings in Unimicron Technology Corp. or Unimicron Technology, Faraday Technology and Silicon Integrated Systems Corporation, or SiS, because of these companies strategic importance to our future operations and expansion.

Unimicron Technology, formerly known as World Wiser Electronics Incorporated, a Taiwan-based manufacturer of printed circuit boards and high density interconnections, was established in January 1980. We held a 37.95% stake in Unimicron Technology as of September 30, 2001. Unimicron Technology, Bestmult Industry Co. and UniMicron Technology Co. completed the merger of the three companies on October 31, 2001. Unimicron Technology was the surviving corporate entity and is expected to be one of the top three printed circuit board manufacturing companies in Taiwan. We were a founding investor in Faraday Technology, a company that offers advanced intellectual property and libraries to our foundry customers. As of March 31, 2005, we held 32.44% and 23.88% in Unimicron Technology and Faraday Technology, respectively.

In connection with the settlement of our litigations with SiS, we and SiS agreed in late 2002 to enter into a broad scope of cooperation, including, among other things, exchange of process patents, production support and our board representation in SiS. Under the settlement, SiS also agreed to engage us as its sole external provider of foundry services for its integrated circuits designed with 0.18 micron or smaller processors. To further strengthen our relationship with SiS, we decided to invest in SiS. As of March 31, 2005, we held 16.16% of SiS s outstanding share capital. In addition, our representatives currently hold four out of seven board seats of SiS, and John Hsuan, our vice chairman, is the chairman of SiS. In July 2004, we acquired SiSMC, a wafer foundry company spun off from SiS in 2003.

Depending on the market conditions, we intend to gradually reduce our other investments through secondary equity offerings, exchangeable bond offerings and other measures available to our company. We sold 105 million, 49 million and 84 million common shares of AU Optronics Corp., or AU Optronics, in 2002, 2003 and 2004. We issued US$235 million Exchangeable Bonds due 2007 in May 2002 and US$206 million Exchangeable Bonds due 2008 in July 2003, which are exchangeable, at the option of the bondholders, into common shares or American depositary shares, or ADSs, and common shares of AU Optronics, respectively. As of December 31, 2004, all bondholders of the Exchangeable Bonds due 2008 have exercised their rights to exchange their bonds into shares of AU Optronics. As of March 31, 2005, we held 1.44% in AU Optronics.

In addition, on April 2, 2002, we transferred to Hitachi Ltd., or Hitachi, all of our interest in Trecenti Technologies, Inc., or Trecenti, a joint venture with Hitachi to build and operate a 12-inch fab in Japan. In October 2003, we sold 17 million common shares of Novatek for NT$1,626 million. In November 2003, we sold all of our interest in Teco Electric & Machinery Co., Ltd., or Teco, consisting of 77 million common shares, for NT$886 million. In 2003, we sold 9 million common shares of MediaTek for NT$3,243 million. In 2004, we sold 6 million common shares of Novatek for NT$513 million (US$16 million) and 7 million common shares of MediaTek for NT$1,612 million (US$51 million). As of March 31, 2005, we held 16.56% and 8.76% in Novatek and MediaTek, respectively.

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

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process. We receive assistance with disposal of industrial waste from the Science Park Administration and Southern Taiwan Science Park Administration. Our operations are subject to regulation and periodic monitoring by Taiwan s Environmental Protection Administration and local environmental protection authorities.

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 2004, we spent approximately NT$350 million (US$11 million) for pollution control equipment. Our monthly waste disposal fees were approximately NT$4 million (US$0.1 million), and our annual cost for environmental monitoring was approximately NT$3 million (US$0.1 million). We also believe that we are in compliance in all material respects with applicable environmental laws and regulations.

Environmental, Safety and Health Management Systems

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

Litigation

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

Hejian, a semiconductor manufacturer in Suzhou, China, was set up in December 2001. Soon after the establishment of Hejian, there were various rumors that Hejian was set up by us, which we denied immediately because we did not inject any capital into nor did we transfer any technology to Hejian. Our denials were widely reported in the local press. In addition, in April 2002, the Investment Commission of the Ministry of Economic Affairs of the Republic of China, which is the government authority in charge of approving investments and technology transfers by Taiwan companies to entities located in China, made inquiries on us regarding Hejian but did not find any violations of laws or regulations by us to that effect.

On February 15, 2005, the Hsinchu District Prosecutor s Office conducted a search of our facilities. We were informed verbally by the prosecutor s office at the time of the search (but without any written notice) that such search was necessary for the prosecutor s office s investigation regarding certain allegations of criminal offenses. The materials taken away by the prosecutor from the search revealed that the prosecutor was focusing on the alleged relationship between Hejian and us. We later learned that the major defendants named by the prosecutor include our Vice Chairman, and the person responsible for the management of Hejian, who is a former employee of our company. The prosecutor alleged that the defendants breached their fiduciary duty owed to us and violated ROC securities laws. Because this incident was widely reported by local news media, several of our shareholders filed a complaint against our Chairman with the Hsinchu District Prosecutor s Office.

We were only able to confirm that at least 25 defendants in total, including our Chairman and Vice Chairman, were investigated by the prosecutor after the prosecutor commenced interrogation in March 2005. The allegation made by the prosecutor is that these defendants collectively moved our company s funds, technology, equipment, customers orders and labor resources to Hejian without regulatory approval. Although we believe that no such acts were committed by any person, our Chairman and Vice Chairman had been informed in an interrogation in June 2005 by the prosecutor that they were being investigated for alleged violations of ROC securities laws and a breach of fiduciary duty, asserting that our management has acted against our shareholders interests by offering technical assistance to Hejian.

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As of the date of this annual report, no charge had been filed by the prosecutor against any member of our management, including our Chairman or Vice Chairman. If our Chairman or Vice Chairman were to be found guilty as charged by the court, he will be required by ROC law to resign from our board, which would have a material adverse effect on our business and operations.

After the prosecutor instituted his investigation, the ROC FSC, a regulatory authority that supervises securities, banking, futures, and insurance activities in Taiwan, began their investigation into any violation of ROC securities laws by us. In April 2005, our Chairman was fined with (1) in the amount of NT$2.4 million by the FSC for our delay in making public disclosure timely (within two days) regarding the information relating to Hejian which was resolved in our board meeting on March 4, 2005, and (2) in the amount of NT$0.6 million for our failure to disclose the information regarding Hejian s verbal promise of a fair return to us in connection with our assistance we had provided to Hejian. As a result of the imposition of the fines by the FSC, our company was also fined in the amount of NT$30,000 by the Taiwan Stock Exchange for a delay in making public disclosure relating to the same information relating to Hejian that was resolved in our board meeting on March 4, 2005. Although our Chairman and we have respectively appealed, we cannot assure you that either our Chairman or we would prevail on appeal.

In 1997, Oak Technology Inc., or Oak Technology, filed a lawsuit against us in the U.S. District Court for the Northern District of California, and initiated a companion administrative law proceeding before the International Trade Commission, or ITC. Both actions claim patent infringement regarding certain types of CD-ROM controllers, and the District Court case also claims that we breached a settlement we entered into with Oak Technology in connection with the same technology. The District Court case was stayed pending an outcome in the ITC case. The ITC Administrative Law Judge found there was no infringement by us, and in September 1999, the ITC affirmed this finding. Oak Technology appealed the ITC s order on non-infringement to the Court of Appeals for the Federal Circuit, which then unanimously affirmed the ITC s order in May 2001. Based on the Federal Circuit s opinion and on a covenant not to sue filed by Oak, the declaratory judgment patent counterclaims were dismissed from the district court case. However, in connection with its breach of contract and other claims, Oak Technology seeks damages in excess of US$750 million. The District Court has set dates for dispositive motions in the second quarter of 2005 and the trial date to begin after December 5, 2005. We believe that Oak s claims are without merit and intend to vigorously defend the suit and to pursue our counterclaims. As with all litigations, we cannot predict the outcome with certainty.

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

Risk Management

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

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

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In 2004, we achieved a number of risk management goals, aiming to improve our emergency response, communication and business recovery during times of crisis. We developed a Risk Identification & Quantification Program for identification and evaluation of risks associated with our equipment and facilities in accordance with international and local standards. We perform such evaluations twice a year. We established a Power Supply Reliability Study & Improvement Project to examine and improve the adequacy and reliability of the power supply to all our facilities. We upgraded our emergency response capabilities and increased the number of our internal fire fighters from 53 to 73 in 2004, of which 10 are full-time professionals. We also established an Emergency Response Auditing Program to implement training exercises to improve the responsiveness of our workforce during emergency situations. Under this program, all fab personnel must go through a test to evaluate their responsiveness and performance during an emergency such as fire, chemical leaks or chemical spills. Finally, we implemented the SARS and Bird Flu Business Continuity Plan to evaluate the potential impact of the diseases.

Insurance

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

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. 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.

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 wafer fab in Singapore Pasir Ris Wafer Fab Park. Pursuant to the sale and transfer agreements entered in August 2003 and March 2004, we purchased all of the shares of UMCi held by Infineon and EDB Investments. Through subsequent purchases, UMCi became our wholly-owned subsidiary in December 2004. For operational purposes, all of UMCi s operations and assets were transferred to our Singapore branch Fab 12i on April 1, 2005.

We acquired SiSMC through a share swap in July 2004 and renamed it as Fab 8S. Fab 8S operates an 8-inch wafer fab with a current capacity by 24,000 wafers per month.

On April 1, 2005, United Foundry Service, Inc. transferred all of its operations and assets to UMC Group (USA). Following the transfer, we have obtained the shareholders approval to liquidate United Foundry Service, Inc.

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