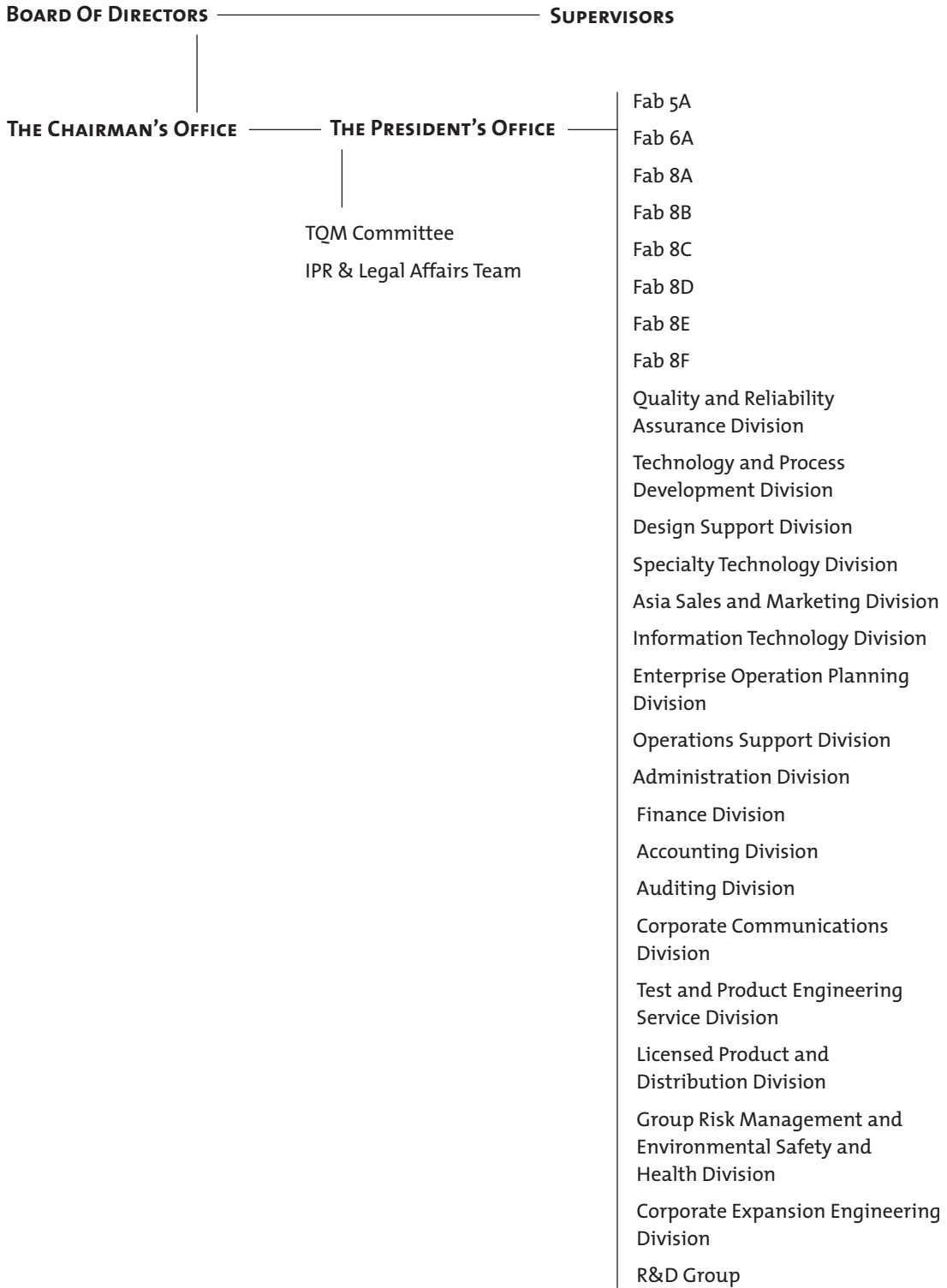


# UNITED MICROELECTRONICS CORPORATION

## CORPORATE OVERVIEW

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## CORPORATE ORGANIZATION



## CORPORATE PROFILE

### Date Incorporated:

May 22, 1980

### Core Business:

- Integrated circuits fabrication.
- Semiconductor devices and related components, such as Hybrid Circuits, IC Cards, and Circuit Modules.
- Microcomputers, microprocessors, peripheral devices, and related subsystems and systems, such as Contact Image Sensors (CIS) and Liquid Crystal Displays (LCD).
- Semiconductor memory devices and related subsystems and systems for data acquisition and transmission.
- Semiconductor devices and related subsystems and systems for data acquisition and transmission.
- Semiconductor devices and related subsystems and systems for telecommunication.
- Integrated circuits testing and packaging.
- Mask ROM.  
  
R&D, design and production, sales, promotion and service of all the above items and their derivatives.
- Import/export trading business related to UMC operations.

## MAJOR OFFICERS

Title	Name	Since	Present Shareholding Common Stock (%)	Spouse & Minor Shareholding Common Stock (%)	Education
President	H. J. Wu	1997.11.28	14,078,650 (0.21)	—(—)	M.S. Chemical Engineering, National Taiwan University
President	Peter Chang	2000. 1. 3	1,918,298 (0.03)	—(—)	Masters, Electric Engineering, University of Texas at Austin

### Notes

Present shareholding is based on actual holding shares, December 31, 1999.  
Peter Chang has acted as the Company's president since January 3, 2000.

## DIRECTORS AND SUPERVISORS

Title	Name	Date Elected (Term, Year)	Shareholding When Elected Common Stock (%)	Shareholding Present Common Stock (%)	Spouse & Minor Shareholding Common Stock (%)	Experience
Chairman	Robert H.C. Tsao	1998.5.5 (3)	28,544,328 (0.68)	45,105,510 (0.68)	10,364 (0.00)	Chairman, United Microelectronics Corp.
Vice Chairman	John Hsuan	1998.5.5 (3)	25,885,401 (0.62)	40,470,992 (0.61)	69,953 (0.00)	CEO, UMC Group Companies
Director	Patrick C.J. Liang	1998.5.5 (3)	181,074,815 (4.32)	243,424,487 (3.67)	— (—)	Chairman, Chiao Tung Bank
Director	Theodore M.H. Huang	1998.5.5 (3)	136,518,808 (3.26)	169,525,651 (2.55)	— (—)	Chairman, TECO Electric & Machinery Co., Ltd.
Director	Donald W. Brooks	1998.5.5 (3)	112,688,095 (2.69)	167,172,788 (2.52)	— (—)	CEO, UMC Group Companies
Director	Ing-Dar Liu	1998.5.5 (3)	18,025,089 (0.43)	28,465,218 (0.43)	104,196 (0.00)	COO, Expansion Projects, UMC Group Companies
Director	Peter Chang	1998.5.5 (3)	(representative of the same legal entity as Donald W. Brooks)			CEO, Foundry Operations, UMC Group Companies
Director	Jing-Shan Aur	1998.5.5 (3)	13,000,000 (0.31)	19,285,500 (0.29)	— (—)	Chief Administrative Officer, UMC Group Companies
Director	H. J. Wu	1998.5.5 (3)	31,200,000 (0.74)	46,285,200 (0.70)	— (—)	President, United Microelectronics Corp.
Director	Mao-Chung Lin	1998.5.5 (3)	6,103,041 (0.15)	9,053,860 (0.14)	452,893 (0.01)	President, Sunrox International Inc.
Director	Jack K.C. Wang	1998.5.5 (3)	9,873,208 (0.24)	13,442,253 (0.20)	120 (0.00)	Chairman, Sen Dah Investment Co., Ltd.
Director	Tsing-Yuan Hwang	1998.5.5 (3)	10,000 (0.00)	14,835 (0.00)	— (—)	Chief Representative of Daiwa Institute of Research Ltd., Taipei Representative Office
Supervisor	Eric C.Y. Huang	1998.5.5 (3)	(representative of the same legal entity as Theodore M.H. Huang)			President, TECO Electric & Machinery Co., Ltd.
Supervisor	Ming-Jan Chen	1998.5.5 (3)	20,131,775 (0.48)	29,865,487 (0.45)	— (—)	Vice President, Industrial Technology Research Institute
Supervisor	Felix S.T. Chen	1998.5.5 (3)	188,175 (0.00)	279,156 (0.00)	18,610 (0.00)	Chairman, SAMPO Corp.

Notes

Present shareholding is based on actual holding shares, December 31, 1999.  
 Patrick C.J. Liang represents Chiao Tung Bank.  
 Theodore M.H. Huang represents TECO Electric & Machinery Co., Ltd.  
 Donald W. Brooks represents Hsun Chieh Investment Corporation.  
 Peter Chang represents Hsun Chieh Investment Corporation.

Jing-Shan Aur represents Chuin Li Investment Corporation.  
 H. J. Wu represents Chuin Tsie Investment Corporation.  
 Tsing-Yuan Hwang represents Ming Shing Industrial Co., Ltd.  
 Eric C.Y. Huang represents TECO Electric & Machinery Co., Ltd.  
 Ming-Jan Chen represents Shieh Li Investment Corporation.

## LIST OF MAJOR SHAREHOLDERS OF UMC'S LEGAL ENTITY STOCKHOLDERS

Name of UMC's Legal Entity Stockholders	Major Shareholders of UMC's Legal Entity Stockholders
Chiao Tung Bank	Ministry of Finance, Directorate General of Postal Remittances and Savings Banks, Bureau of Labor Insurance, Chunghwa Telecom Co., Ltd., Unipac Optoelectronics Corporation
TECO Electric & Machinery Co., Ltd.	United Microelectronics Corporation, Cathay Life Insurance Co., Ltd., Directorate General of Postal Remittances and Savings Banks, Central Investment Holding Co., Ltd., Tong-Kuang Investment Co., Ltd.
Chuin Li Investment Corporation	Robert H.C. Tsao, John Hsuan
Hsun Chieh Investment Corporation	Hung Lien Investment Corporation, Tong Sing Investment Corporation
Chuin Tsie Investment Corporation	Robert H.C. Tsao, John Hsuan
Ming Shing Industrial Co., Ltd.	Kuang-Hwa Investment Holding Co., Ltd.
Shieh Li Investment Corporation	Robert H.C. Tsao, John Hsuan

## STATUS OF CORPORATE BONDS AND PREFERRED STOCK ISSUES

The Company has authorized capital of 11,000,000,000 shares of stock (of which 1,500,000,000 shares are reserved for convertible bonds issued in R.O.C or foreign countries) with NT\$10 par value per share. 9,049,268,587 shares were issued and outstanding as of March 8, 2000.

The Company issued the first round of unsecured Euro convertible bonds in the amount of US\$160,000,000 on June 8, 1994. All of the bonds were converted into the Company's common stocks or redeemed prior to October 26, 1999.

The Company issued the second round of unsecured Euro convertible bonds on May 16 and June 3 of 1997. The main terms of the issue are as follows:

- **Total amount:** US\$300,000,000.
  - **Issue price:** The bonds were issued in registered form in denominations of US\$5,000 each.
  - **Interest payment and redemption details:** 0.25% per annum net of withholding tax (Interest payable on the bonds to non-residents is subject to a withholding tax in the R.O.C. equal to 20% of the gross amount of interest. The Company will pay such tax to the tax authority for each bondholder). Interest will be paid on February 14th each year. On the maturity date, the bondholders may present the bonds to the Company for payment of the principal and accrued interest in cash.
  - **Issue period:** 7 years after issue date (From May 16, 1997 to May 16, 2004).
  - **Conversion period:** From July 1, 1997 to May 2, 2004.
- The Company issued the third round of unsecured domestic convertible bonds on January 20, 1998. The main terms of the issue are as follows:
- **Total amount:** NT\$15,000,000,000.
  - **Issue price:** The bonds were issued in registered form in denominations of NT\$100,000 each.
  - **Interest payment and redemption details:** 0 % per annum. On the maturity date, the bondholders may present the bonds to the Company for payment of the principal in cash.
  - **Issue period:** 10 years after issue date (From January 20, 1998 to January 19, 2008).
  - **Conversion period:** At any time during the issue period from the end of the first month after the issue date until ten days prior to the maturity date.

## MAJOR VENDORS AND CUSTOMERS

### Major Customers

Name	1999		1998	
	Amount	% (Net Sales)	Amount	% (Net Sales)
UMC-USA	5,559,165	19%	750,175	4%

Unit: Thousand NTD

### Major Vendors

Name	1999		1998	
	Amount	% (Net Purchases)	Amount	% (Net Purchases)
UTEK Semiconductor Corp.	1,506,076	17%	22,799	1%
United Semiconductor Corp.	1,274,357	15%	1,563,675	36%
United Silicon Inc.	744,164	9%	1,068,021	25%

Unit: Thousand NTD

Note: Major customers and vendors are selected based on the following criterion: customers/vendors whose purchase/sales volume in any one year for the past two years represents 10% or more of the total buy/sales volume of the Company.

## PRODUCTION AND SALES FIGURES FOR LAST TWO YEARS

### Production Figures For Last Two Years

Product	1999		1998	
	Quantity	Value	Quantity	Value
Wafer (pcs)	761,980	8,517,151	525,899	6,318,820
Chips (thousands)	24,439	1,001,281	8,642	233,526
Packaged ICs (thousands)	166,300	10,143,120	197,149	8,460,274

Unit: Thousand NTD

### Sales Figures For Last Two Years

Product	1999		1998	
	Quantity	Value	Quantity	Value
Wafer (pcs)	761,287	14,269,689	518,519	9,546,247
Chips (thousands)	24,416	1,698,130	8,421	310,099
Packaged ICs (thousands)	140,142	10,859,934	162,433	7,449,410

Unit: Thousand NTD

## OPERATIONS OVERVIEW

### BUSINESS SCOPE

- **Major Business:** Full Service Semiconductor Wafer Foundry.
- **Current Products and Services:** Wafer Foundry Services, including embedded IC design, mask making, wafer manufacturing, testing etc.
- **Future Products and Services:** Wafer manufacturing requires the most advanced technology of any part of the semiconductor production cycle. Under the guidance of UMC management, the Company has reached world-class manufacturing levels and leads most of the major semiconductor companies in the introduction of advanced deep sub micron processes. Its 0.25-micron process was introduced in the fourth quarter of 1997, followed by its 0.18-micron technology in the first quarter of 1999.

UMC is currently engaged in a joint development program for 0.13 and 0.10-micron technology with IBM and Infineon. The early introduction of process technology is largely attributed to UMC's effective research and development efforts and efficient production management, resulting in shorter cycle time and reduced time-to-market for its customer's products. Furthermore, in response to the growing trend towards system-on-chip (SOC) products, the Company continues to develop embedded memory macro, analog and mixed-signal process technology, and other system integration technologies used for SOC designs. UMC now operates a total of eight fabs (one 5-inch fab, one 6-inch fab and six 8-inch fabs), and offers production for processes from 1.0 micron down to 0.18-micron.

## MARKET AND SALES CONDITION

### MARKET ANALYSIS

- **Major Sales Regions:** Currently the majority of customers are located in North America and Asia. To better diversify its customer base and reduce risk, the Company also plans to place strong emphasis on the development of major accounts in Europe and Japan.
- **Future Supply and Demand Situation:** According to Dataquest and the World Semiconductor Trade Statistics latest

report, the global IC market will follow the 1999 industry upturn with a strong growth rate in 2000 of 22%. In response to this rise in demand, many semiconductor manufacturers have started to increase capacity and accelerate development of advanced process technologies.

- **Revenue Target:** UMC's year 2000 revenue target is NT\$88 billion, or 202% growth over 1999. The Company set this challenging revenue figure due to its

## MARKET AND SALES CONDITION (CONTINUED)

industry leadership position, aggressive capacity expansion plans, and the industry's return to robust demand.

### • Positive and Negative Factors Relating to Future Development:

#### POSITIVE FACTORS:

- UMC maintains stable long-term orders through its strategic alliances with global industry leaders.
- UMC has an exceptional management team, operating with a strategy of aggressive business tactics, flexible processes to fit each customer's needs, and heavy emphasis on research and development for advanced process technologies.
- UMC has distinguished itself as a top-tier player amidst the foundry industry boom. The trend towards market disintegration will create new opportunities for the Company as the market for foundry services continues to grow.
- UMC is on par with the world leaders in process technology development. Mainstream production is currently at the 0.25-micron level, with 0.18-micron production growing steadily. This shift towards volume production of more advanced technologies creates higher profits for the Company while offering value added benefits to the customer.
- 1999 signified the first year of recovery from the industry downturn. 2000, 2001 and 2002 are projected to be years of high growth.

#### NEGATIVE FACTORS:

- The US may play a significant role in the growth of the IC industry. A booming US stock market and healthy economy have triggered consumer spending, but it is uncertain how the global economy and the semiconductor industry will react if the US slips into negative growth.

## MAJOR PRODUCTS AND USES

### • CMOS-process products

Executing logic functions, e.g. graphics chips, audio chips, and microprocessors

### • Mixed-signal products

Chips for processing mixed-signals, i.e. networking and MPEG chips

### • High speed SRAM

Cache SRAM

### • Non-volatile process

Flash memories, EEPROM memories, etc.

### • Embedded memories

Chips combining logic and memory functions

## MARKET CONDITIONS OF THE CHIEF RAW MATERIALS USED AT UMC

UMC obtains its raw materials from reputable vendors with whom long term, credible relationships have been established. This ensures price stability, a high standard of quality, and reasonable pricing from raw material suppliers.

**Number of Employees (persons)**

	1999	1998
Engineers	1,552	1,147
Administrators	210	205
Clerks	85	101
Technicians	1,605	1,271
Total	3,452	2,724

**Average Age**

	1999	1998
Average Age	31.0	31.2

**Average Years of Employment**

	1999	1998
Average Years of Employment	4.4	4.8

**Level of Education (%)**

	1999	1998
Ph.D.	2.2	2.1
Master's Degree	20.3	18.4
Bachelor's and Associate Degree	36.3	35.1
Senior High School	39.8	42.6
Others	1.4	1.8

## ENVIRONMENTAL PROTECTION

With a philosophy of sustainable development and responsibility towards society, UMC not only complies with, but strives to exceed all applicable environmental and safety regulations. In our goal towards making UMC a more environmentally-friendly corporation, all production units are required to make efforts toward clean production, waste reduction, pollution prevention and risk management in addition to incorporating international environmental standards.

In 1999, investment for pollution control equipment exceeded NT\$ 50 million. Operation costs for this equipment are approximately NT\$ 3 million per month, plus a monthly waste treatment fee of around NT\$ 875,000. Installation costs of pollution control equipment at a new plant are in excess of NT\$ 130 million.

In the past three years, UMC has had no disputes involving environmental issues, and has received numerous awards recognizing performance regarding energy conservation, water conservation, and industrial pollution control. Not only has UMC made significant efforts towards environmental protection, the Company has also been devoted in establishing and maintaining an effective ISO-14001 Environmental Management System (EMS). UMC follows the Plan-Do-Check-Act management model of environmental protection.

Through cooperation with the Industry Bureau, UMC implemented the Central Safety and Health System between 1998 and 1999. This system, comprising of 15 suppliers and contractors, focuses on waste minimization and raising industry safety standards. In addition to conserving resources, the program resulted in economic benefits of NT\$ 537 million. UMC also participates in a PFC reduction program to protect the atmosphere, and takes active part in environmental organizations, contingency response teams, and other public activities focused on raising the quality of environmental protection efforts.

## LABOR RELATIONS

UMC places great importance on employee salaries and benefits, and actively engages in employee training, the enforcement of all labor laws, and the protection of employee rights in an effort to provide the best possible working environment. Employees can communicate with management through many avenues, including departmental meetings, colleague symposiums, and opinion boxes. In addition, UMC has set up employee counseling services to further ensure the mental and physical health of UMC employees, and to develop a harmonious atmosphere between employees and management.

Due to its continuous efforts to create good labor relations, UMC has received several awards from the Council of Labor Affairs and other related organizations. These awards include such titles as “Model Institution for the Promotion of Labor Welfare,” “Model Enterprise for the Promotion of Labor Education,” and “Model Enterprise for Industrial Relations.”

## MAJOR AGREEMENTS

### TECHNOLOGY COOPERATION AND CONSTRUCTION CASES

#### **International Business Machines Corp. and Infineon Technologies AG**

UMC partnered with IBM and Infineon in the joint development and licensing of advanced CMOS logic and eDRAM semiconductor technologies for 0.18um, 0.15um, and 0.13um.

#### **Hitachi, Ltd.**

UMC and Hitachi formed a joint venture in Ibaraki prefecture in Japan for the manufacture of 300mm wafers with leading edge technology; UMC has rights to 50% of the output.

#### **Various Construction Companies, such as Apex Science & Engineering Corp., L&K Engineering Co., Ltd., Tan Hou Co., Ltd., Taiwan Kumagai Co., Ltd., etc.**

UMC contracted with major construction companies to build semiconductor facilities to UMC's specifications in Hsin Chu and Tainan; total contract amounts exceed NTD 1.2 billion.

### MAJOR LICENSES

UMC is committed to the protection and enhancement of intellectual property. Based on over twenty years of investment, UMC has been awarded more US patents in the semiconductor field than any other independent foundry in the world. UMC has also entered cross licenses with major semiconductor company patent holders to ensure that UMC customers do not face infringement claims as a result of our wafer processing. Some of the major licenses include:

#### **AT&T/Lucent**

Process & Topography

#### **Harris Corporation**

Process & Topography

#### **Hitachi, Ltd.**

Process & Topography

#### **International Business Machines Corp.**

Process, Topography & Design

#### **Motorola, Inc.**

Process, Topography & Design

#### **Texas Instruments Incorporated**

Process, Topography & Memory Content

## LITIGATION AND NON-LITIGATED INCIDENTS

In February 1997, Micron Technology Inc. filed an antidumping petition regarding Static Random Access Memory (SRAM) made in Taiwan. An antidumping order, issued in April 1998, imposes various dumping duties on SRAM made in Taiwan, if and when those SRAM are imported into the USA. This order is subject to various subsequent proceedings, including those resulting from a civil action filed with the United States Court of International Trade. Regardless of any of these proceedings, UMC believes the SRAM order will have no material effect on its business or financial performance.

Oak Technology Inc. (OAKT) and UMC entered a settlement agreement in July 1997 concerning a complaint filed with the United States International Trade Commission (ITC) against UMC and others, alleging patent infringement regarding certain CD-ROM controllers. In December 1997, OAKT filed a civil action in a California federal district court, alleging that UMC had breached the settlement agreement. In April 1998, OAKT again filed with the ITC, reasserting against UMC these same patent and settlement claims. On September 27, 1999, the ITC issued its order finding no infringement and therefore no act of unfair competition. OAKT has appealed. Whatever the outcome of the ITC or District Court cases, UMC believes this OAKT matter will have no material effect on its business or financial performance.

Micron Technology filed another antidumping petition against Taiwan in October 1998, this time complaining about Dynamic Random Access Memory (DRAM). By order issued in November 1999, the ITC rejected Micron's allegations and found that there was no injury or threat of injury to U.S. industry by reason of "unfairly" traded subject DRAMs from Taiwan. Whatever resulting proceedings or appeals Micron might initiate, UMC does not believe the DRAM allegations or these proceedings will have a material effect on its business or financial performance.

## PRODUCTION AND SALES PROJECTIONS - YEAR 2000

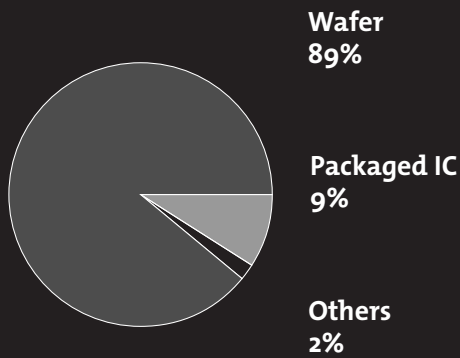
### Production Plan (2000)

Fab 5A(5 inch)	354,000
Fab 6A(6 inch)	582,000
Fab 8A(8 inch)	443,000
Fab 8B(8 inch)	410,000
Fab 8C(8 inch)	368,000
Fab 8D(8 inch)	82,000
Fab 8E(8 inch)	319,000
Fab 8F(8 inch)	115,000

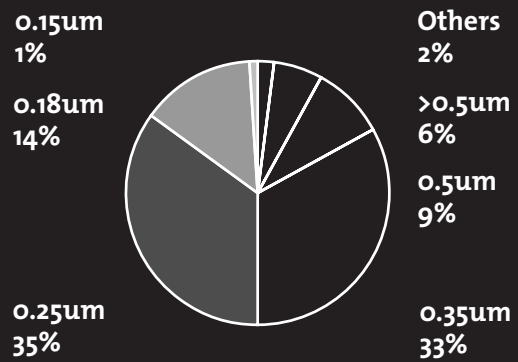
Unit: Wafers (pcs)

### Sales Projections (2000)

#### Sales Analysis By Product Type



#### Sales Analysis By Geometry



Product Type	Sales Amount	%
Wafer	78,471,832	89
Packaged IC	8,063,793	9
Others	1,546,688	2
<b>Total</b>	<b>88,082,313</b>	<b>100</b>

Unit: Thousand NTD

Geometry	Sales Amount	%
0.15um	697,781	1
0.18um	12,618,977	14
0.25um	31,032,849	35
0.35um	28,953,124	33
0.5um	8,204,757	9
>0.5um	5,028,137	6
Others	1,546,688	2

<b>Total</b>	<b>88,082,313</b>	<b>100</b>
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Unit: Thousand NTD

## **DISPOSAL/ACQUISITION PLAN FOR REAL ESTATE/LONG-TERM INVESTMENTS IN YEAR 2000**

We have partnered with Hitachi, Ltd. to develop a 12-inch fab in Japan. This facility, in which 50% of capacity is reserved for UMC customers, is expected to be the first 12-inch facility in the world to start volume production. UMC and Hitachi will initially invest 30 billion Japanese Yen in the joint venture.

In order to ease management complexity and improve the level of technology at UMC, the Company plans to dispose of its 5-inch wafer foundry facility in 2000.

## RESEARCH AND DEVELOPMENT ACHIEVEMENTS AND PLANS

### R&D ACHIEVEMENTS

UMC has led the semiconductor industry in providing 0.18um logic technology to customers worldwide, with mass production in 3 of UMC's fabs. The 0.18um product run-rate reached 5,000~10,000 wafers per month in the second half of 1999 while cycle time and yields have reached the volume production performance level. Significant progress is also being made in developing 0.15um logic technology with pilot production expected to start in the first quarter of 2000. Free libraries for 0.15um technology will also be introduced at the same time. Great interest has been shown in our 0.15um technology, and customers have been test-running products with UMC. UMC provides design support for all levels of our technology, including EDA tools, IP, library and all other support needed by customers.

Furthermore, UMC has made steady progress in developing 0.18/0.15um Cu interconnect technology. UMC has already demonstrated the performance of Cu interconnect in various products. Currently, SRAM and customers' logic products using Cu interconnects show equal or better yields compared to those using Al, while still showing improvements. For logic applications, we have demonstrated a defect density of less than 0.5 ( $\text{in}^{-2}$ ).

For Mixed Signal processes, we have successfully developed high quality Metal-Metal-Capacitor and inductor devices for the application of 0.25um and 0.18um tech-

nologies. These developments will greatly benefit UMC customers by providing them with a very efficient solution for their Mixed Signal and RF product designs.

Regarding our DRAM process, we are already in mass production for 0.21um products, and 0.18um products have been successfully developed in 1999. In embedded DRAM, we have provided a logic compatible process that combines DRAM, SRAM, and Logic portions in a single process for 0.25 and 0.21um generations. Embedded DRAM at 0.18um is currently being developed with key customers, due for production by the middle of 2000. For flash and other non-volatile memories, 0.25um technology has been in production in UMC fabs, with pilot production for 0.18um flash technology due the first quarter of 2000. We have also been producing production levels of 0.35um technology embedded flash, with 0.25um available to customers also in 2000. Our progress in embedded memories is a significant step towards developing complete System-On-Chip (SOC) solutions for UMC customers.

In 1999, UMC became the first international member of the Semiconductor Research Corp (SRC), joining a group of elite semiconductor companies which includes IBM, Intel, TI, Motorola, AMD, HP, Lucent, Applied Materials, and Novellus. With the SRC, UMC co-sponsored the "Cu design contest" to facilitate the exploration of copper in IC circuit designs. This contest drew 43 entries from 34 universities, advancing copper

research while offering valuable training to the future designers of the IC industry.

**PATENT DISCLOSURE AND GRANTED**

In 1999, there were 941 patents filed by UMC. UMC has acquired 287 ROC patents, 283 US patents, and 76 patents from other countries.

**UPCOMING R&D PLANS**

We are currently working on a 0.13 and 0.10um process for our next generation of advanced technology development. In the coming year we will also introduce transistors with gate lengths of 0.10um and beyond, which are much smaller than the current leading edge 0.15um and 0.12um transistors. This will provide a larger competitive edge for UMC customers in their development of new products. For the 0.15um logic generation, we already adopt a 0.12um gate length transistor for the baseline process, significantly enhancing product performance. Other developments include low voltage/low power and high speed Silicon on Insulator (SOI) technology, which will be available to customers at 0.10um and 0.07um generations.

Meanwhile, we continue to emphasize the development of advanced processes such as low k dielectric, advanced lithography, and alternative materials to enhance customer product performance. In addition to logic, we offer a wide portfolio of other resources such as DRAM, non-volatile memories, embedded DRAM/flash, mixed-mode, and RF devices. More importantly, we con-

tinue to shorten the time needed for process development and volume production. We also jointly develop technologies with various customers, partners, and vendors, and participate in semiconductor basic research programs to maintain our foundry technology leadership.

UMC is committed to the ongoing challenge of providing the best technical service along with our industry leading technology.

**R&D Expenditures 1998-99**

	1999	1998
<b>Expenditures</b>	<b>2.7</b>	<b>1.9</b>

Unit: Billion NTD

## CAPITAL EXPENDITURE PLANS

### Year 2000 Capital Expenditure Plan

FAB 5A Equipment	62
FAB 6A Equipment	386
FAB 8A Equipment	2,891
FAB 8B Equipment	661
FAB 8C Equipment	1,723
FAB 8D Equipment	9,624
FAB 8E Equipment	21,428
FAB 8F Equipment	15,256
FAB 12A Equipment	8,475
Information Technology Equipment	722
Testing & Packaging Equipment	1,674
R&D Equipment	1,648
Quality Control Equipment	432
Testing Tower Facility	468
Dormitory	416
Others	913
<b>Total</b>	<b>66,779</b>

Unit: Million NTD

In 2000, UMC's capital expenditure budget will be devoted mainly to purchasing new production equipment, research and development of new process technology, and for the construction of FAB 12A. Capital expenditure will be funded by company profits, convertible bonds, and syndicated loans. Return from these spending projects is expected to increase production quantities by 40%.

## ANALYSIS OF CONVERTIBLE BOND ISSUES

The 1998 domestic convertible bonds were used for Fab 8F first stage construction for plant, machinery, and equipment, along with investment in Unipac Optoelectronics Corporation. The investment project will ultimately require a total of NT\$24 billion. There are three funding resources for this project: (a) domestic convertible bonds

(NT\$15 billion), (b) the Company's own resources, and (c) other financial instruments (b+c=NT\$9 billion). Actual completed expenditure was 57.64% by the end of 1999, compared to our original expectations of 52.08%.