

Company Profile

2.1 An Introduction to TSMC

Established in 1987 and headquartered in Hsinchu Science Park, Taiwan, TSMC pioneered the pure-play foundry business model with an exclusive focus on manufacturing customers' products. By choosing not to design, manufacture or market any semiconductor products under its own name, the Company ensures that it never competes with its customers. And so, the key to TSMC's success has always been to enable its customers' success. TSMC's foundry business model has enabled the rise of the global fabless industry, and TSMC is now the world's largest semiconductor foundry, manufacturing 10,761 different products using 272 distinct technologies for 499 different customers in 2019.

TSMC-manufactured semiconductors serve a global customer base that is large and diverse and includes a wide range of applications in the computer, communications, consumer, and industrial/standard segments. These products are used in a variety of end markets including mobile devices, high performance computing, automotive electronics and the Internet of Things (IoT). Strong diversification helps to smooth fluctuations in demand, which in turn helps TSMC maintain higher levels of capacity utilization and profitability, and generate healthy returns for future investment.

The annual capacity of the manufacturing facilities managed by TSMC and its subsidiaries exceeded 12 million 12-inch equivalent wafers in 2019. These facilities include three 12-inch wafer GIGAFAB® fabs, four 8-inch wafer fabs, and one 6-inch wafer fab – all in Taiwan – as well as one 12-inch wafer fab at a wholly owned subsidiary, TSMC Nanjing Company Limited, and two 8-inch wafer fabs at wholly owned subsidiaries, WaferTech in the United States and TSMC China Company Limited.

TSMC provides customer service, account management and engineering services through offices in North America, Europe, Japan, China, and South Korea. At the end of 2019, the Company and its subsidiaries employed more than 51,000 people worldwide.

The Company is listed on the Taiwan Stock Exchange (TWSE) under ticker number 2330, and its American Depositary Shares (ADSs) are traded on the New York Stock Exchange (NYSE) under the symbol TSM.

2.2 Market/Business Summary

2.2.1 TSMC Achievements

In 2019, TSMC maintained its leading position in the foundry segment of the global semiconductor industry, with an estimated market share of 52%, despite ongoing intense competition from both established players and relatively new entrants to the business.

The Company's strong market position stems in great part from its leadership in advanced process technologies. In 2019, 50% of TSMC's wafer revenue came from advanced manufacturing processes – defined as geometries of 16nm and smaller – up from 41% in 2018.

TSMC offers the foundry segment's broadest technology portfolio and continues to invest in advanced and specialty technologies to provide customers more added value. This is a differentiating competitive advantage for TSMC.

In 2019, the Company developed or introduced the following:

Logic Technology

- 5nm Fin Field-Effect Transistor (FinFET) (N5) technology is TSMC's newest offering. This world-leading technology received multiple customer product tape-outs in 2019, including mobile and high performance computing products. Volume production of N5 technology is expected in the first half of 2020. Compared to 7nm FinFET (N7) technology, N5 technology offers about 15% speed improvement or about 30% power reduction. In addition, it is optimized upfront for both mobile and high performance computing applications.
- 5nm FinFET Plus (N5P) technology is a performance-enhanced version of N5 technology with same design rules. N5P technology provides about 20% faster speed than N7 technology or about 40% power reduction. Design kits of N5P technology will be available in the next N5 revision in the second quarter of 2020.

Breakthrough
Courage

- 6nm FinFET (N6) technology successfully completed product yield verification in 2019. Thanks to mask layer reduction achieved through extreme ultraviolet (EUV) lithography technology, N6 technology could achieve better yield and shorten production cycles compared to N7 technology in the manufacture of the same products. In addition, N6 technology delivers about 18% higher logic transistor density than 7nm technology. This, along with higher yield due to mask layer reduction, can help customers get more good dies per wafer. Also, since its design rules are compatible with N7 technology, N6 technology can significantly reduce customers' product design cycle time and time-to-market. Risk production of N6 technology started in the first quarter of 2020 with volume production planned before the end of 2020.
- N7 technology is one of TSMC's fastest technologies in volume production, and provides optimized manufacturing processes for both mobile computing applications and high performance computing components. N7 received a total of more than 100 customer product tape-outs by the end of 2019, covering a wide range of applications, including mobile devices, game consoles, artificial intelligence (AI), central processing units, graphics processors, and network connected devices. In addition, 7nm FinFET plus (N7+) technology entered full-scale production in 2019 and delivered customer products to market in high volume. N7+ technology is the first commercially available EUV-enabled foundry process technology in the world. Its success is a testament to TSMC's world-leading capabilities in EUV volume production and paves a solid foundation for N6 and more advanced technologies.
- 12nm FinFET compact plus technology (12FFC+) and 16nm FinFET compact plus technology (16FFC+) comprise TSMC's latest 16nm/12nm family of offerings following 16nm FinFET plus technology (16FF+), 16nm FinFET compact technology (16FFC) and 12nm FinFET compact technology (12FFC). 12FFC+ and 16FFC+, which entered risk production in 2019, drive product performance and power consumption to the best levels among all the foundry's 16/14nm technologies. 16FF+ is aimed at high performance product applications, including mobile devices, servers, graphics and cryptocurrency. All 12FFC+, 12FFC, 16FFC+ and 16FFC technologies can support customer needs in mainstream and ultra-low power (ULP) product applications, including low-end to mid-range

mobile phones, consumer electronics, digital TVs and the Internet of Things (IoT). So far, 12FFC+, 12FFC, 16FFC+, 16FFC and 16FF+ have received a total of more than 500 customer product tape-outs, most of which have been first-time silicon successes.

- 22nm ultra-low leakage (ULL) (22ULL) technology began volume production in 2019 to support IoT and wearable devices applications. In addition, 22ULL low Vdd (low operating voltage) solutions were ready in 2019. Compared to 40ULP and 55ULP technologies, 22ULL technology offers new ULL device, ULL SRAM (static random access memory), and low Vdd solutions to significantly lower power consumption.
- 22nm ULP (22ULP) technology was developed based on TSMC's industry-leading 28nm technology and started volume production in 2019. Compared to 28nm high performance compact plus (28HPC+) technology, 22ULP provides 10% area reduction with 10% speed gain, or 20% power reduction for many applications including image processing, digital TVs, set-top boxes, smartphones and consumer products.
- 28HPC+ technology accumulated more than 300 customer product tape-outs by the end of 2019. 28HPC+ technology provides further performance enhancement or power reduction in mainstream smartphone, digital TV, storage, audio and SoC (System-on-Chip) applications. Compared to 28HPC technology, 28HPC+ technology improves performance by about 15% or reduces leakage by about 50%.
- 40nm ULP (40ULP) technologies received a total of over 100 product tape-outs by the end of 2019. These technologies support a variety of IoT and wearable devices applications, including wireless connectivity, wearable application processors and micro control units (MCUs). In addition, TSMC uses its leading 40ULP low Vdd technology to offer low energy consumption solutions for IoT devices and wearable connected devices. Development of new, enhanced analog devices is progressing well, which will enrich the 40ULP platform to support customers for broader analog design needs in the future.
- 55nm ultra-low power (55ULP) technology received a total of over 70 customer tape-outs by the end of 2019. Compared to 55nm low power (55LP) technology, 55ULP can significantly increase battery life for IoT applications. In addition, it integrates RF (radio frequency) and eFlash (embedded flash) to simplify customers' SoC designs.

Specialty Technology

- 16FF+ technology has begun production for customer applications in the automotive industry since 2017. 16FFC foundation IPs (intellectual properties) passed the Automotive Electronic Council AEC-Q100 Grade-1 qualification and were certified for functional safety standard ISO 26262 ASIL-B. In addition, TSMC 9000A was introduced for automotive IP management to complete the automotive ecosystem with third party IP vendors. TSMC continues to develop more 7nm automotive foundation IPs, which completed AEC-Q100 Grade-2 qualification in the first quarter of 2020.
- 16FFC RF led the foundry to start volume production of the fifth generation (5G) mobile network chips for customers in the first half of 2018. This technology has been extended to the next generation wireless local area network (WLAN) 802.11ax and Millimeter Wave (mmWave) applications, as well as to wireless connectivity applications such as smartphones using the 5G mobile network. Continuing to advance 16FFC RF technology, in 2019 TSMC not only delivered the world's first FinFET device whose f_t (cut-off frequency) can reach >300GHz but also completed the development of the world's first and best FinFET device whose f_{max} can reach >400GHz. This high-performance and cost-effective technology will be used in many applications such as radar sensing and AR/VR to reduce chip power consumption and die size and to enable SoC designs.
- 22ULL RF technology extended its support for wireless LAN power amplifier devices and ultra-low leakage devices in 2019, in addition to magnetic random access memory (MRAM), resistive random access memory (RRAM) and high f_t devices. This further supports chip development for 5G mmWave mobile communication and IoT applications.
- 22ULL embedded RRAM technology started risk production in 2019 and is expected to complete IP reliability qualification in 2020. This technology can support various applications such as IoT MCUs and AI memory devices.
- 22ULL embedded magnetic random access memory (MRAM) technology IPs are expected to complete reliability qualification in 2020. In addition, 16nm MRAM is under development and is progressing well. MRAM technology provides a competitive migration path for eFlash replacement of high reliability MCUs, including AEC-Q100 Grade-1 applications.

- 28HPC+ RF technology led the foundry segment to deliver the first RF process design kit (PDK) in 2018, providing support for 110GHz mmWave, 150°C automotive grade and so on for 5G mmWave RF and automotive radar product designs. In 2019, 28HPC+RF technology extended its support for ultra-low leakage devices and embedded flash. Customer products of 5G mmWave RF and automotive radar are already in volume production.
- 28nm ULL eFlash technology completed AEC-Q100 Grade-1 reliability qualification in 2019. TSMC continues to enhance this technology, which is expected to meet more stringent AEC-Q100 Grade-0 requirements in 2020.
- 40ULP eFlash technology received over 40 product tape-outs by the end of 2019, including MCUs, wireless MCUs and security elements. 40ULP eFlash technology also offered a low Vdd option, which provides low energy consumption solutions for IoT devices and wearable connected devices.
- 40ULP embedded RRAM technology IPs completed reliability qualification in 2019. This technology is fully CMOS (Complementary Metal Oxide Semiconductor) logic compatible for PDK and IP re-use for applications including wireless MCU, IoT and wearable devices.
- 40ULP analog platform was further enhanced for reduced noise, improved mismatch and lower leakage devices and so on. Complete design documents are expected to be ready in 2020. This enhanced 40ULP analog platform is fully logic compatible and supports analog designs that require high precision analog performance along with low power consumption.
- 12-inch 0.13 μ m Bipolar-CMOS-DMOS (BCD) plus technology, which began production in 2017, saw significant wafer shipment growth in both 2018 and 2019. Compared to the previous 0.13 μ m BCD technology, this technology provides continuous performance improvement and features enhancement for power management applications in high-end smartphones.
- 0.18 μ m BCD third generation passed AEC-Q100 Grade-1 qualification in 2018, and went on to meet AEC-Q100 Grade-0 qualification in 2019. This technology provides superior cost competitiveness compared to the second generation BCD.

- Gallium nitride (GaN) on silicon technology was further enhanced to integrate GaN power switches with drivers in both 650V and 100V platforms, as well as improve reliability to support customer designs for higher power density and efficiency solutions for various market applications. Both 650V and 100V GaN IC technology platforms are expected to be ready in 2020.
- Organic light-emitting diode (OLED) on silicon panel technology increases pixel density by five to ten times compared to the traditional OLED on glass technology and can support the growing demand for high-quality AR/VR (augmented reality / virtual reality) goggles. In working with customers, TSMC successfully demonstrated this technology on both 8-inch and 12-inch high voltage (HV) technologies, which paves the way for AR/VR suppliers to develop next generation goggles for various industrial, medical and consumer electronics applications.
- As machine vision is quickly deployed in many security, automotive, home, and mobile communication applications, TSMC offers the next generation global shutter CMOS image sensor (CIS) and enhanced near infrared (NIR) CIS technologies, making machine vision systems safer, smaller, and consume less power.
- TSMC successfully supported customer to deliver the world's smallest CMOS-MEMS (micro-electromechanical systems) monolithic accelerometer in chip scale packaging (CSP) format, smaller than 1mm² in size. This small footprint can help reduce the size and weight of many IoT and wearable devices.

Advanced Packaging Technology

- Successfully developed InFO-PoP (Integrated Fan-Out Package-on-Package) technology which integrates 7nm SoC (System-on-Chip) and DRAM (dynamic random access memory) for advanced mobile device applications and delivered several customer products to market in high volume in 2019.
- CoWoS[®] (Chip on Wafer on Substrate) technology that heterogeneously integrates multiple 7nm SoC chips and the second generation high bandwidth memory (HBM2) on 2-reticle size silicon interposer successfully completed qualification in the third quarter of 2019 for high performance computing applications.
- In addition to CoWoS[®], InFO_oS (Integrated Fan-Out on Substrate) technology integrating multiple 7nm SoC chips began volume production in 2019.
- Fine pitch copper (Cu) bump technology for flip chip packaging on 5nm silicon successfully completed qualification in 2019 for both advanced mobile device and high performance computing applications.

- Successfully developed 16nm silicon in wafer level chip scale packaging (WLCSPP) technology and delivered customer products to market in high volume in 2019 for IoT and high-end smartphone applications.

2.2.2 Market Overview

TSMC estimates that the worldwide semiconductor market excluding memory was US\$327 billion in revenue in 2019, representing a 2% decline from 2018. In the foundry segment of the semiconductor industry, total revenue was US\$67 billion in 2019, flat from 2018.

2.2.3 Industry Outlook, Opportunities and Threats

Industry Demand and Supply Outlook

TSMC's back-to-back years of growth in the foundry segment was driven by relatively healthy market demand. However, for 2020, the COVID-19 pandemic brings about uncertainty on both supply and demand of the total semiconductor industry. Considering the potential impacts, TSMC forecasts the total semiconductor market excluding memory to be flat or slightly decline. Over the longer term, however, fueled by increasing semiconductor content in electronic devices, continuing market share gains by fabless companies, gradual increases in integrated device manufacturer (IDM) outsourcing, and expanding in-house application-specific integrated circuits (ASIC) from systems companies, the Company expects its foundry segment revenue to outpace the mid-single digit compound annual growth rate projected for the overall semiconductor market excluding memory from 2019 through 2024.

As an upstream supplier in the semiconductor supply chain, the foundry segment is tightly correlated with the market health of the major platforms, including smartphone, high performance computing (HPC), Internet of Things (IoT), automotive, and digital consumer electronics (DCE).

• Smartphone

Smartphone unit shipments, which were down for the first time in their history in 2018, by 4%, declined again in 2019, by 2%, reflecting established high penetration in many developed countries and China. For 2020, with 5G commercialization accelerating, new 5G smartphones will likely shorten the overall replacement cycle. However, COVID-19 pandemic may delay smartphone replacement. As a result, TSMC projects a high-single digit decline for smartphone market in 2020. Over the longer term, migration to 5G, together with improved performance, longer battery life, biosensors and more AI features, will all continue to propel new smartphone sales going forward.

Low-power IC is an essential requirement among handset manufacturers, and SoC design, in which TSMC is already the leader, is the preferred solution due to its optimized cost, power and form factor (device footprint and thickness) potential. The migration to advanced process technologies will continue to accelerate, spurred by the appetite for higher performance to run AI applications, various complex software routines and higher resolution video.

• High Performance Computing (HPC)

The HPC platform includes PC, Tablets, Server, Base Station, Game Console etc. Major HPC unit shipment fell by 4% in 2019, mainly due to prolonged replacement cycle of consumer PC, lower enterprise Server demand, and current generation Game Console entering tail of product life cycle; while partially offset by 5G Base Station deployment and growing business PC demand.

The HPC is projected to have a mid-single digit unit decline in 2020, impacted by COVID-19. Nevertheless, several factors are expected to drive demand in HPC platform, including continually 5G Base Station deployment, rising Data Center AI Server demand, and next generation Game Console launching etc. All these require higher performance and power-efficient CPUs, GPUs, NPUs, AI Accelerators, and related-ASICs, which will drive the overall HPC platform towards richer silicon content and more advanced process technologies.

• Internet of Things (IoT)

Internet of Things (IoT) platform includes various kinds of connected devices, such as smart wearable, smart speaker, and surveillance system, etc. The IoT unit shipments grew 25% in 2019, with Bluetooth earphone, smart watch, and smart speaker as the major growth drivers.

Looking into 2020, despite impacted by COVID-19, the IoT unit shipments will grow mid-teens, thanks to continued growth momentum of Bluetooth earphone, smart watch, and smart speaker, and continued development of various applications. By adding more AI functions, the IoT devices will drive more demand for more powerful yet lower power controllers, connectivity IC and sensors. TSMC offers high-performance yet low-power process technologies to enable customers' competitiveness for winning the market.

• Automotive

The car unit sales fell 5% in 2019, because of the softened global economies. It is projected to decline again at low-teens in 2020 due to COVID-19 pandemic and continued macro uncertainty.

Moving forward, TSMC expects richer semiconductor content requirement driven by EV (electrical vehicle), ADAS (Advanced Driver Assistance System) and Infotainment system to fuel the demand for Processors, Sensors, Analog and Power ICs. TSMC offers various kinds of automotive process technologies to help customers winning the automotive market.

• Digital Consumer Electronics (DCE)

The DCE unit shipments fell 7% in 2019. TVs and set-top boxes declined due to worldwide economic uncertainties, while MP3 players, digital cameras continued to be cannibalized by smartphones.

A continued drop in DCE is expected in 2020. Certain sub-segments such as 4K and 8K (UHD) TVs should achieve positive growth within the sector. In addition, AI functions such as picture quality improvement and voice control have continuously been incorporated in TVs. With its broad array of advanced technology offerings, TSMC expects to take advantage of these market trends.

Supply Chain

The electronics industry features a long and complex supply chain, the elements of which are correlated but highly interdependent. At the upstream manufacturing level, IC vendors need to have sufficient and flexible supply deliveries to handle fluctuating demand dynamics. Foundry vendors play an important role to ensure the health and effectiveness of the supply chain. As a leader in the foundry segment, TSMC provides advanced technologies and large-scale capacity to complement the innovations created in the downstream chain.

2.2.4 TSMC Position, Differentiation and Strategy

Position

TSMC is the worldwide semiconductor foundry leader for advanced, specialty and advanced packaging technologies, commanding a 52% market share in 2019. Net revenue by geography, based mainly on the country in which customers are headquartered, was: 60% from North America; 9% from the Asia Pacific region, excluding China and Japan; 20% from China; 6% from Europe, the Middle East and Africa; and 5% from Japan. Net revenue by platform was: 49% from the smartphone; 30% from the high performance computing (HPC); 8% from the Internet of Things (IoT); 4% from automotive. In addition, 5% was from digital consumer electronics; and 4% from others.

Differentiation

TSMC's leadership position is based on three defining competitive strengths and a business strategy rooted in the Company's heritage. The Company distinguishes itself from the competition through its technology leadership, manufacturing excellence and customers' trust.

As a technology leader, TSMC is consistently first among dedicated foundries to provide next generation, leading-edge technologies. The Company also maintains a leadership position in more mature technologies by applying the lessons learned in leading-edge technology development to enrich its specialty technologies. Beyond process technology, TSMC has established frontend and backend integration capabilities to create the optimum power/performance/area "sweet spot" to help customer achieve faster time-to-production.

Well known for industry-leading manufacturing management capabilities, TSMC extends that leadership through its Open Innovation Platform® and Grand Alliance initiatives. The Open Innovation Platform® initiative quickens the pace of innovation in the semiconductor design community and among its ecosystem partners, as well as in the Company's own IP, design implementation and design for manufacturing capabilities, process technology and backend services. A key element is a set of ecosystem interfaces and collaborative components initiated and supported by the Company that more efficiently empower innovation throughout the supply chain and drive the creation and sharing of new revenue and profits. The TSMC Grand Alliance is one of the most powerful forces for innovation in the semiconductor industry, bringing together customers, electronic design automation (EDA) partners, IP partners, and key equipment and material suppliers at a new, higher level of collaboration. Its objective is to help customers, alliance members and TSMC win business and increase competitiveness.

The foundation for customer trust is a commitment TSMC made when it opened for business in 1987 to never compete with its customers. As a result, TSMC has never owned or marketed a single semiconductor product, but instead has focused all of its resources on becoming the trusted foundry for its customers.

Strategy

TSMC is confident that its differentiating strengths will enable it to prosper from the foundry segment's many attractive growth opportunities. In light of the rapid growth in four major markets, namely smartphone, high performance computing, the Internet of Things, and automotive electronics, and the fact that focus of customer demand is shifting from process-technology-centric to product-application-centric, TSMC has constructed four corresponding technology platforms to provide customers with the most comprehensive and competitive logic process technologies, specialty technologies, IPs and packaging and testing technologies to shorten customers' time-to-design and time-to-market. These platforms are:

Smartphone: TSMC offers leading process technologies such as 5nm FinFET, 6nm FinFET, 7nm FinFET Plus, and 7nm FinFET logic process technologies, as well as comprehensive IPs for premium product applications to further enhance chip performance, reduce power consumption, and decrease chip size. For mainstream product applications, TSMC offers leading process technologies such as 12nm FinFET compact (12FFC), 16nm FinFET compact (16FFC), 28nm high performance compact (28HPC), 28nm high performance mobile compact plus (28HPC+), and 22nm ultra-low power (22ULP) logic process technologies, in addition to comprehensive IPs, to satisfy customer needs for high performance and low power chips. Furthermore, for premium, high-, mid- and low-end product applications, the Company also offers the most competitive, leading-edge specialty technologies, including RF, embedded flash memory, emerging memory technologies, power management, sensors, and display chips as well as advanced packaging technologies such as industry-leading Integrated Fan-Out (InFO) technology.

High Performance Computing: TSMC provides customers with leading process technologies such as 5nm FinFET, 6nm FinFET, 7nm FinFET and 12/16nm FinFET, as well as comprehensive IPs including high-speed interconnect IPs, to meet customers' high performance computing and communication requirements. The Company also offers multiple advanced packaging technologies such as CoWoS®, InFO, and 3D IC to enable homogeneous and heterogeneous chip integration to meet customers' performance, power, and system footprint requirements. TSMC will continue to

optimize its high performance computing platform offerings to help customers capture market growth driven by data explosion and application innovation.

Internet of Things: TSMC provides leading, comprehensive, and highly integrated ultra-low power (ULP) technology platform to support innovations for IoT and wearable applications. The Company's leading offerings, including 55nm ULP, 40nm ULP, 28nm ULP, and 22nm ULP/Ultra-low leakage (ULL), have been widely adopted by various IoT and wearable applications. TSMC has also extended its low Vdd (low operating voltage) offerings for extreme low-power applications. To support the ever-increasing demand in IoT edge computing and wireless connectivity, TSMC also offers the most competitive and comprehensive leading-edge specialty technologies in RF, enhanced analog devices, embedded flash memory, emerging memory, sensors and display chips, as well as multiple advanced packaging technologies including leading InFO technology.

Automotive electronics: TSMC offers leading automotive technologies to support the three megatrends – safer, smarter and greener – in the automotive industry. The Company is also the industry leader in providing a robust automotive IP ecosystem, which covers 16nm FinFET first and extends to 7nm FinFET and 5nm FinFET, for advanced driver-assistance systems (ADAS) and advanced in-vehicle infotainment (IVI), the two most computationally demanding systems in the automotive industry. In addition to its advanced logic platform, TSMC offers broad and competitive specialty technologies, including 28nm embedded flash memory, 28nm, 22nm, and 16nm mmWave RF, high sensitivity CMOS Image/LiDAR (light detection and ranging) sensors, and power management ICs. Magnetic random access memory (MRAM), an emerging technology, is being developed with good progress to meet automotive Grade-1 requirements. All these automotive technologies are applied to TSMC's automotive process qualification standards based on AEC-Q100 standards.

TSMC continually strengthens its core competitiveness and deploys both short-term and long-term plans for technology and business development and assists customers in taking on the challenges of short product cycles and intense competition in the electronic products market to meet ROI and growth objectives.

• Short-Term Semiconductor Business Development Plan

1. Substantially ramp up the business and sustain advanced technology market share by continued increasing capacity and R&D investments.
2. Maintain mainstream technology market share by expanding business to new customers and market segments.
3. Continue to enhance the competitive advantages of the Company's platforms in smartphone, high performance computing, IoT, and automotive electronics design ecosystems so as to expand TSMC's dedicated foundry services in these product applications.
4. Further expand TSMC's business and service infrastructure into emerging and developing markets.

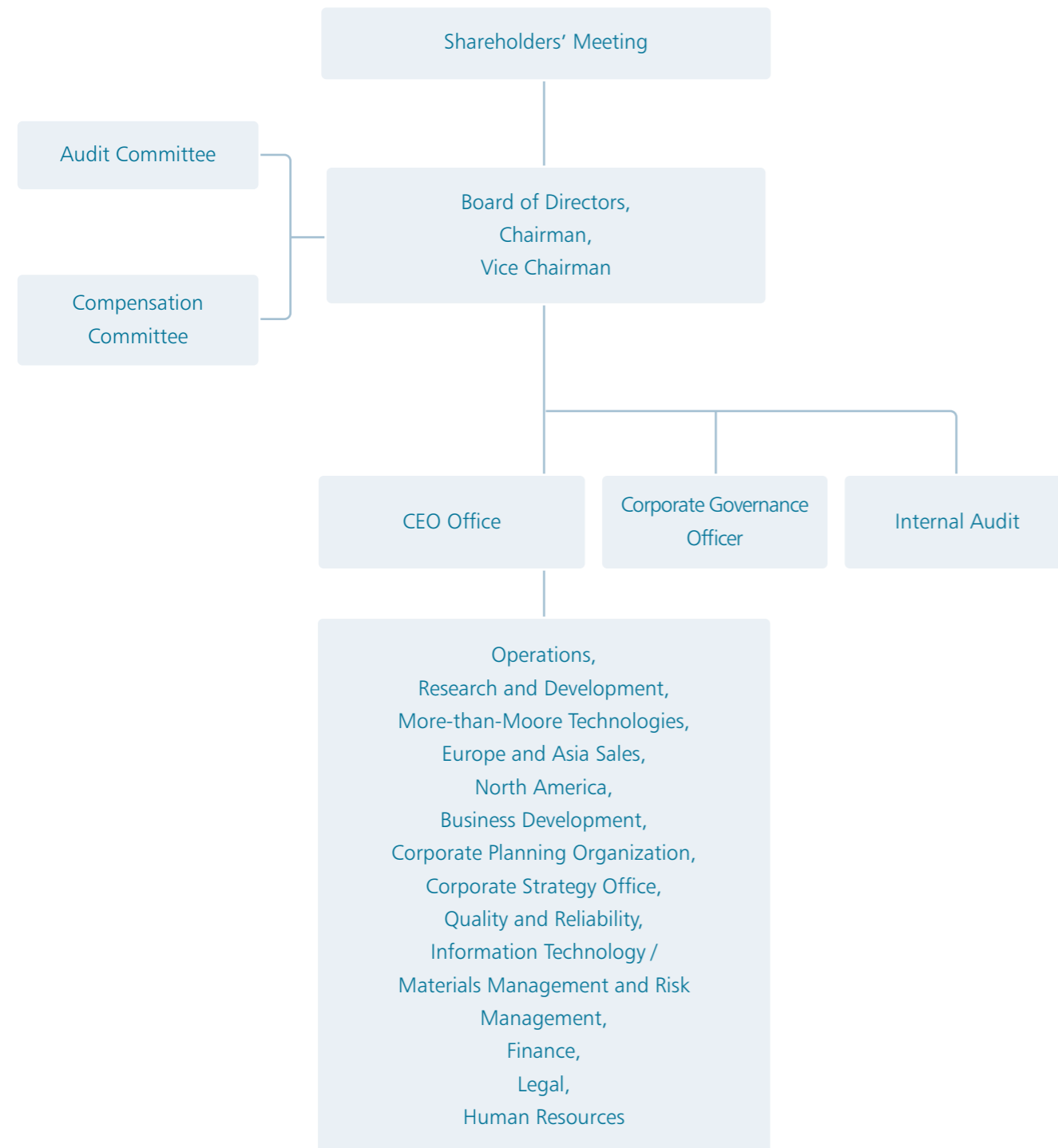
• Long-Term Semiconductor Business Development Plan

1. Continue developing leading-edge technologies at a pace consistent with the Moore's Law.
2. Broaden specialty business contributions by further developing derivative technologies.
3. Provide more integrated services, covering system-level integration design, design technology definition, design tool preparation, wafer processing, and backend services, all of which deliver more value to customers through optimized solutions.

2.3 Organization

2.3.1 Organization Chart

As of 2/29/2020



2.3.2 Major Corporate Functions

Operations

- Operations including all fabs in Taiwan and overseas, and manufacturing technology development; product development, advanced packaging technology development, production and service integration, and support and service for customers in Asia, Europe, and North America

Research and Development

- Advanced technology development, exploratory research, as well as design and technology platform development

More-than-Moore Technologies

- Specialty technology development

Europe and Asia Sales

- Sales and market development, technical marketing, field technical support and service, and business operations for customers in Europe and Asia, including China, Japan, Korea and Taiwan

North America

- Sales and market development, field technical solutions and business operations for customers in North America

Business Development

- Identification of market directions and new applications that shape the technology roadmap and portfolios for the Company. It also provides key support in strengthening customer relationships along with Company branding management

Corporate Planning Organization

- Planning for operation resources, as well as for production and demand; the integration of business processes, corporate pricing, market analysis and forecasting

Corporate Strategy Office

- Corporate strategy formation and implementation

Quality and Reliability

- Assurance of the quality and reliability of the Company's products by resolving reliability issues at new technology development stage; improving and managing product quality at production stage; providing solutions to resolve customers' quality related issues; and providing services for advanced materials and failure analysis

Information Technology / Corporate Information Security

- Integration of the Company's technology and business IT systems; infrastructure development; communication services and assurance of IT security and service quality; enabling the application of big data and machine learning to improve the Company's productivity and accelerate R&D delivery

Materials Management and Risk Management

- Procurement, warehousing, import and export, and logistics support; also environmental protection, industrial safety, occupational health and risk management

Internal Audit

- Inspection and review of the Company's internal control system, its adequacy in design and effectiveness in operation, with independent risk assessment to ensure compliance with the Company's policies and procedures as well as with external regulations

Finance and Spokesperson

- Corporate finance, accounting and corporate communications; with the head of the organization also serving as the Company spokesperson

Legal

- Corporate legal affairs including regulatory compliance, commercial transactions, patents and management of other intellectual properties, litigation, etc.

Human Resources

- Personnel management, organizational development, physical security management, employee services and wellness management

2.4 Board Members

2.4.1 Information Regarding Board Members

As of 02/29/2020

Title/Name (Note 1)	Gender	Nationality or Place of registration	Date Elected	Term Expires	Date First Elected	Shares Held When Elected		Shares Currently Held		Shares Currently Held by Spouse & Minors		Selected Education, Past Positions & Current Positions at Non-profit Organizations	Selected Current Positions at TSMC and Other Companies
						Shares	%	Shares	%	Shares	%		
Chairman Mark Liu	Male	U.S.	06/05/2018	06/04/2021	06/08/2017	12,913,114	0.05%	12,913,114	0.05%	-	-	Bachelor Degree in Electrical Engineering, National Taiwan University Master Degree and Ph.D. in Electrical Engineering & Computer Science, University of California, Berkeley Former President, Worldwide Semiconductor Manufacturing Corp. Former Senior Vice President, Advanced Technology Business, TSMC Former Senior Vice President, Operations, TSMC Former Executive Vice President and Co-Chief Operating Officer, TSMC Former President and Co-CEO, TSMC Chairman, Taiwan Semiconductor Industry Association (TSIA)	None
Vice Chairman C.C. Wei	Male	R.O.C.	06/05/2018	06/04/2021	06/08/2017	7,179,207	0.03%	7,179,207	0.03%	261	0.00%	Bachelor and Master Degrees in Electrical Engineering, National Chiao Tung University Ph.D. in Electrical Engineering, Yale University Former Senior Vice President, Chartered Semiconductor Manufacturing Ltd. Former Senior Vice President, Mainstream Technology Business, TSMC Former Senior Vice President, Business Development, TSMC Former Executive Vice President and Co-Chief Operating Officer, TSMC Former President and Co-CEO, TSMC Director, TSMC Charity Foundation	CEO, TSMC
Director F.C. Tseng	Male	R.O.C.	06/05/2018	06/04/2021	05/13/1997	34,472,675	0.13%	34,472,675	0.13%	132,855	0.00%	Bachelor Degree in Electrical Engineering, National Chengkung University Master Degree in Electrical Engineering, National Chiao Tung University Ph.D. in Electrical Engineering, National Chengkung University Honorary Ph.D., National Chiao Tung University Honorary Ph.D., National Tsing Hua University Former President, Vanguard International Semiconductor Corp. Former President, TSMC Former Deputy CEO, TSMC Former Vice Chairman, TSMC Former Director, National Culture and Arts Foundation, R.O.C. Chairman, TSMC Education and Culture Foundation Director, Cloud Gate Culture and Arts Foundation	Chairman of: - TSMC China Company Ltd. (a nonpublic company) - Global UniChip Corp. Vice Chairman, Vanguard International Semiconductor Corp. Independent Director, Chairman of Audit Committee & Compensation Committee member, Acer Inc.
Director National Development Fund, Executive Yuan (Note 1) Representative: Mei-ling Chen	Female	R.O.C.	06/05/2018	06/04/2021	12/10/1986 11/07/2017 (Note 2)	1,653,709,980	6.38%	1,653,709,980	6.38%	-	-	LL.B., National Chengchi University LL.M., National Taiwan University LL.D., National Chengchi University Former Director General, Department of Legal Affairs, Ministry of Justice, R.O.C. Former Chairperson of Legal Affairs Committee & concurrently Chairperson of Petitions and Appeals Committee, Executive Yuan, R.O.C. Former Deputy Secretary-General, Executive Yuan, R.O.C. Former Secretary-General, Tainan City Government, R.O.C. Former Secretary-General, Executive Yuan, R.O.C. Former Associate Professor, Department of Law, Chinese Culture University Minister without Portfolio, Executive Yuan & concurrently Minister, National Development Council, R.O.C.	None

(Continued)

Title/Name (Note 1)	Gender	Nationality or Place of registration	Date Elected	Term Expires	Date First Elected	Shares Held When Elected		Shares Currently Held		Shares Currently Held by Spouse & Minors		Selected Education, Past Positions & Current Positions at Non-profit Organizations	Selected Current Positions at TSMC and Other Companies
						Shares	%	Shares	%	Shares	%		
Independent Director Sir Peter L. Bonfield	Male	UK	06/05/2018	06/04/2021	05/07/2002	-	-	-	-	-	-	Bachelor and Honours Degrees in Engineering, Loughborough University Former Chairman and CEO, ICL Plc Former CEO and Chairman of the Executive Committee, British Telecommunications Plc Former Vice President, the British Quality Foundation Former Director, Mentor Graphics Corp., U.S. Former Director, Sony Corp., Japan Former Director, L.M. Ericsson, Sweden Former Chairman, GlobalLogic Inc., U.S. (a nonpublic company) Former Senior Advisor to Hampton Group, London Fellow of the Royal Academy of Engineering Chair of Council and Senior Pro-Chancellor, Loughborough University, UK Board Member, EastWest Institute, New York	Chairman, NXP Semiconductors N.V., the Netherlands Member, The Longreach Group Advisory Board, HK Board Mentor, CMI, UK Senior Advisor to Alix Partners, London
Independent Director Stan Shih	Male	R.O.C.	06/05/2018	06/04/2021	04/14/2000	1,480,286	0.01%	1,480,286	0.01%	16,116	0.00%	BSEE & MSEE, National Chiao Tung University Honorary EE Ph.D., National Chiao Tung University Honorary Doctor of Technology, The Hong Kong Polytechnic University Honorary Fellowship, University of Wales, Cardiff, UK Honorary Doctor of International Law, Thunderbird, American Graduate School of International Management, U.S. Co-Founder, Chairman Emeritus, Acer Group Former Chairman & CEO, Acer Group Former Director, Qisda Corp. Former Director, Wistron Corp. Former Chairman, National Culture and Arts Foundation, R.O.C. Director, Public Television Service Foundation, R.O.C. Council member of Asian Corporate Governance Associate (ACGA) Chairman, StanShih Foundation Chairman, Cloud Gate Culture and Arts Foundation	Director & Honorary Chairman, Acer Inc. Chairman, CT Ambi Investment and Consulting Inc. (a nonpublic company) Director of: - Egis Technology Inc. - Nan Shan Life Insurance Co., Ltd. (a non-listed company) - Chinese Television System Inc. (a non-listed company) - Digitimes Inc. (a nonpublic company)
Independent Director Kok-Choo Chen	Female	R.O.C.	06/05/2018	06/04/2021	06/09/2011	-	-	-	-	5,120	0.00%	Inns of Court School of Law, England Barrister-at-law, England Advocate & Solicitor, Singapore Attorney-at-law, California, U.S. Lawyer, Tan, Rajah & Cheah, Singapore, 1969-1970 Lawyer, Sullivan & Cromwell, New York, U.S., 1971-1974 Lawyer, Heller, Erhman, White & McAuliffe, San Francisco, California, U.S., 1974-1975 Partner, Ding & Ding Law Offices, Taiwan, 1975-1988 Partner, Chen & Associates Law Offices, Taiwan, 1988-1992 Vice President, Echo Publishing, Taiwan, 1992-1995 President, National Culture and Arts Foundation, R.O.C., 1995-1997 Senior Vice-President & General Counsel, TSMC, 1997-2001 Founder & Executive Director of Taipei Story House, 2003-2015 Advisor, Executive Yuan, R.O.C., 2009-2016 Director, National Culture and Arts Foundation, R.O.C., 2011-2016 Chairman, National Performing Arts Center, 2014-2017 Lecturer, Nanyang University, Singapore, 1970-1971 Associate Professor, Soochow University, 1981-1998 Chair Professor, National Tsing Hua University, 1999-2002 Professor, National Chengchi University, 2001-2004 Professor, Soochow University, 2001-2008 Founder and Executive Director, Museum207 Director, Republic of China Female Cancer Foundation	None

(Continued)

Title/Name (Note 1)	Gender	Nationality or Place of registration	Date Elected	Term Expires	Date First Elected	Shares Held When Elected		Shares Currently Held		Shares Currently Held by Spouse & Minors		Selected Education, Past Positions & Current Positions at Non-profit Organizations	Selected Current Positions at TSMC and Other Companies
						Shares	%	Shares	%	Shares	%		
Independent Director Michael R. Splinter	Male	U.S.	06/05/2018	06/04/2021	06/09/2015	-	-	-	-	-	-	Bachelor and Master Degrees in Electrical Engineering, University of Wisconsin Madison Honorary Ph. D in Engineering, University of Wisconsin Madison Former Executive Vice President of Technology and Manufacturing group, Intel Corp. Former Executive Vice President of Sales and Marketing, Intel Corp. Former CEO, Applied Materials, Inc. Former Chairman, Applied Materials, Inc. Former Director, The NASDAQ OMX Group, Inc. Former Director, Silicon Valley Leadership Group Former Director, Semiconductor Equipment and Materials International (SEMI) Former Director, Meyer Burger Technology Ltd., Switzerland Director, University of Wisconsin Foundation Chairman of the Board, US-Taiwan Business Council	Chairman of the Board, NASDAQ, Inc. Director of: - Tigo Energy, Inc. (a nonpublic company) - Pica8, Inc., U.S. (a nonpublic company) - Gogoro Inc., Cayman Islands (a nonpublic company) General Partner, WISC Partners LP
Independent Director Moshe N. Gavriellov (Note 3)	Male	U.S.	06/05/2019	06/04/2021	06/05/2019	-	-	-	-	-	-	Bachelor Degree in Electrical Engineering, Technion - Israel Institute of Technology Master Degree in Computer Science, Technion - Israel Institute of Technology In a variety of engineering and engineering management positions, National Semiconductor Corp. and Digital Equipment Corp. In a variety of executive management positions, LSI Logic Corp., nearly 10 years Former CEO, Verisity, Ltd. Former Executive Vice President and General Manager of the Verification Division, Cadence Design Systems, Inc. Former President and CEO, Xilinx, Inc. Former Director, Xilinx, Inc. Director, San Jose Institute of Contemporary Art	Executive Chairman, Wind River Systems, Inc. (a nonpublic company) Director, Foretellig, Ltd. (a nonpublic company)

Remarks:

- No member of the Board of Directors held TSMC shares by nominee arrangement.
- Chairman and President (or someone with an equivalent job responsibility, i.e. the highest ranking manager of the company) are not (1) the same person, (2) in a marital relationship with each other, or (3) within one degree of consanguinity.

Note 1: Major Shareholder of TSMC's Director that is an Institutional Shareholder.

Director that is an Institutional Shareholder of TSMC	Top 10 Shareholders
National Development Fund, Executive Yuan	Not Applicable

Major Institutional shareholders of National Development Fund: Not Applicable.

Note 2: Ms. Mei-ling Chen was appointed as the representative of National Development Fund on November 7, 2017.

Note 3: Mr. Moshe N. Gavriellov was elected as TSMC's independent director at TSMC's Annual Shareholders' Meeting on June 5, 2019.

2.4.2 Remuneration Paid to Directors and Independent Directors (Note 1)

Unit: NT\$

Title/Name	Director's Remuneration								Compensation Earned by a Director Who is an Employee of TSMC or of TSMC's Consolidated Entities										(A+B+C+D+E+F+G) as a % of Net Income (Note 5)		Compensation Paid to Directors from Non-consolidated Affiliates or Parent Company
	Base Compensation (A)		Severance Pay and Pensions (B) (Note 3)		Compensation to Directors (C)		Allowances (D) (Note 4)		(A+B+C+D) as a % of Net Income		Base Compensation, Bonuses, and Allowances (E) (Note 4)		Severance Pay and Pensions (F) (Note 3)		Employees' Profit Sharing Bonus (G)				From TSMC	From All Consolidated Entities	
	From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC		From All Consolidated Entities				
															Cash	Stock (Fair Market Value)	Cash	Stock (Fair Market Value)			
Chairman Mark Liu	12,750,000	12,750,000	224,400	224,400	279,105,120	279,105,120	1,338,981	1,338,981	0.0850%	0.0850%	-	-	-	-	-	-	-	-	0.0850%	0.0850%	-
Vice Chairman C.C. Wei	-	-	-	-	-	-	-	-	-	-	153,646,880	153,646,880	224,400	224,400	139,552,560	-	139,552,560	-	0.0850%	0.0850%	-
Director F.C. Tseng	-	-	-	-	9,600,000	9,600,000	1,715,592	1,715,592	0.0033%	0.0033%	-	-	-	-	-	-	-	-	0.0033%	0.0033%	8,911,973
Director National Development Fund, Executive Yuan Representative: Mei-ling Chen	-	-	-	-	9,600,000	9,600,000	-	-	0.0028%	0.0028%	-	-	-	-	-	-	-	-	0.0028%	0.0028%	-
Independent Director Sir Peter L. Bonfield	-	-	-	-	14,823,720	14,823,720	-	-	0.0043%	0.0043%	-	-	-	-	-	-	-	-	0.0043%	0.0043%	-
Independent Director Stan Shih	-	-	-	-	12,000,000	12,000,000	-	-	0.0035%	0.0035%	-	-	-	-	-	-	-	-	0.0035%	0.0035%	-
Independent Director Kok-Choo Chen	-	-	-	-	12,000,000	12,000,000	-	-	0.0035%	0.0035%	-	-	-	-	-	-	-	-	0.0035%	0.0035%	-
Independent Director Michael R. Splinter	-	-	-	-	14,823,720	14,823,720	-	-	0.0043%	0.0043%	-	-	-	-	-	-	-	-	0.0043%	0.0043%	-
Independent Director Moshe N. Gavriolov (Note 2)	-	-	-	-	8,451,777	8,451,777	-	-	0.0024%	0.0024%	-	-	-	-	-	-	-	-	0.0024%	0.0024%	-
Total	12,750,000	12,750,000	224,400	224,400	360,404,337	360,404,337	3,054,573	3,054,573	0.1090%	0.1090%	153,646,880	153,646,880	224,400	224,400	139,552,560	-	139,552,560	-	0.1940%	0.1940%	8,911,973

*Other than disclosure in the above table, Directors remunerations earned by providing services (e.g. providing consulting services as a non-employee) to TSMC and all consolidated entities in the 2019 financial statements: Advisor Fee to Dr. F.C. Tseng NT\$14,405,550.

Note 1: Directors and Independent Directors' remuneration policies, procedures, standards and structure, as well as the linkage to responsibilities, risks and time spent:

1. According to TSMC's Articles of Incorporation, the Board of Directors is authorized to determine the salary for the Chairman, Vice Chairman and Directors, taking into account the extent and value of the services provided for the management of the Corporation and the standards of the industry within the R.O.C. and overseas.
2. The Articles of Incorporation also provide that the compensation to directors shall be no more than 0.3% of annual profits and directors who also serve as executive officers of TSMC are not entitled to receive compensation to directors. According to TSMC's Compensation Committee Charter, the distribution of compensation to directors shall be made in accordance with TSMC's "Rules for Distribution of Compensation to Directors" based on the following principles: (1) directors who also serve as executive officers of the Company are not entitled to receive compensation; (2) the compensation for independent directors may be higher than the other directors, as all independent directors also serve as members of the Audit Committee and the Compensation Committee and thus participate in the discussions as well as resolutions of related committee meetings in accordance with the charter of each committee; and (3) the compensation for overseas independent directors may be higher than domestic independent directors, as they require additional time to attend quarterly meetings in Taiwan.

Note 2: Mr. Moshe N. Gavriolov was elected as TSMC's independent director at TSMC's Annual Shareholders' Meeting on June 5, 2019.

Note 3: Pensions funded according to applicable law.

Note 4: The above-mentioned figures include expenses for Company cars and gasoline reimbursement, but do not include compensation paid to Company drivers (totalled NT\$2,705,364).

Note 5: Total remuneration paid to the directors from TSMC and from all consolidated entities in 2018, including their employee compensation, both accounted for 0.1997% of 2018 net income.

2.5 Management Team

2.5.1 Information Regarding Management Team

As of 02/29/2020

Title Name (Note 1)	Gender	Nationality	On-board Date (Note 2)	Shares Held		Shares Held by Spouse & Minors		Shares Held in the Name of Others		Education and Selected Past Positions	Selected Current Positions at Other Companies	Managers Who are Spouses or within Second-degree Relative of Consanguinity to Each Other (Note 3)		
				Shares	%	Shares	%	Shares	%			Title	Name	Relation
Chief Executive Officer C.C. Wei	Male	R.O.C.	02/01/1998	7,179,207	0.03%	261	0.00%	-	-	Ph.D., Electrical Engineering, Yale University, U.S. President and Co-Chief Executive Officer, TSMC Executive Vice President and Co-Chief Operating Officer, TSMC Senior Vice President, Business Development, TSMC Senior Vice President, Mainstream Technology Business, TSMC Senior Vice President, Chartered Semiconductor Manufacturing Ltd.	None	None	None	None
Senior Vice President Europe & Asia Sales Lora Ho	Female	R.O.C.	06/01/1999	4,531,080	0.02%	2,230,268	0.01%	-	-	Master, Business Administration, National Taiwan University, Taiwan Senior Vice President, Chief Financial Officer/ Spokesperson, TSMC Senior Director, Accounting, TSMC Vice President & CFO, TI-Acer Semiconductor Manufacturing Corp.	Director and/or Supervisor, TSMC subsidiaries	None	None	None
Senior Vice President Research and Development/ Technology Development Wei-Jen Lo	Male	R.O.C.	07/01/2004	1,441,127	0.01%	-	-	-	-	Ph.D., Solid State Physics and Surface Chemistry, University of California, Berkeley, U.S. Vice President, Research and Development, TSMC Vice President, Manufacturing Technology Operations, TSMC Vice President, Advanced Technology Business, TSMC Vice President, Operations II, TSMC Director, Advanced Technology Development and CTM Plant Manager, Intel Corp.	None	None	None	None
Senior Vice President Corporate Strategy Office Rick Cassidy	Male	U.S.	11/14/1997	-	-	-	-	-	-	Bachelor, Engineering Technology, United States Military Academy at West Point, U.S. Chief Executive Officer, TSMC North America President of TSMC North America Vice President of TSMC North America Account Management	Director, TSMC subsidiary	None	None	None
Senior Vice President Operations/ Product Development Y.P. Chin	Male	R.O.C.	01/01/1987	6,920,122	0.03%	2,191,107	0.01%	-	-	Master, Electrical Engineering, National Cheng Kung University, Taiwan Vice President, Product Development Operations, TSMC Vice President, Advanced Technology and Business, TSMC Senior Director, Product Engineering and Services, TSMC	None	None	None	None
Senior Vice President Research and Development/ Technology Development Y.J. Mii	Male	R.O.C.	11/14/1994	1,000,419	0.00%	-	-	-	-	Ph.D., Electrical Engineering, University of California, Los Angeles, U.S. Vice President, Technology Development, TSMC TSMC Senior Director, R&D Platform I Division, TSMC	None	Director	Wayne Yeh	brother in law
Senior Vice President Information Technology and Materials Management & Risk Management J.K. Lin	Male	R.O.C.	01/01/1987	12,518,018	0.05%	1,019,961	0.00%	-	-	Bachelor, Science, National Changhua University of Education, Taiwan Vice President, Mainstream Fabs and Manufacturing Technology Operations, TSMC Senior Director, Mainstream Fabs Operations, TSMC	None	None	None	None
Senior Vice President Operations/ Fab Operations J.K. Wang	Male	R.O.C.	02/11/1987	2,553,947	0.01%	160,844	0.00%	-	-	Master, Chemical Engineering, National Cheng Kung University, Taiwan Vice President, 300mm Fabs Operations, TSMC Senior Director, 300mm fabs Operations, TSMC	Director, TSMC subsidiaries	None	None	None
Vice President Research and Development/ Technology Development Cliff Hou	Male	R.O.C.	12/15/1997	366,351	0.00%	60,802	0.00%	-	-	Ph.D., Electrical Engineering, Syracuse University, U.S. Vice President, Design and Technology Platform, TSMC Senior Director, Design and Technology Platform, TSMC	Director, TSMC subsidiaries Director, TSMC affiliate President, TSMC subsidiaries	None	None	None
Vice President and General Counsel/ Corporate Governance Officer Legal Sylvia Fang	Female	R.O.C.	03/20/1995	700,285	0.00%	69,112	0.00%	384,000	0.00%	Master of Comparative Law, School of Law, University of Iowa Attorney-at-law, Taiwan Associate General Counsel, TSMC Senior Associate, Taiwan International Patent and Law Office (TIPLLO)	Director and/or Supervisor, TSMC subsidiaries	None	None	None
Vice President Human Resources Connie Ma	Female	R.O.C.	06/01/2014	139,000	0.00%	-	-	-	-	EMBA, International Business Management, National Taiwan University Director of Human Resources, TSMC Senior Vice President of Global Human Resources, Trend Micro Inc.	None	None	None	None
Vice President Operations/ Fab Operations Y.L. Wang	Male	R.O.C.	06/01/1992	218,535	0.00%	1,135,529	0.00%	-	-	Ph.D., Electrical Engineering, National Chiao Tung University, Taiwan Vice President, Technology Development, TSMC Vice President, Fab 14B Operations, TSMC Senior Director, Fab 14B Operations, TSMC	Director, TSMC subsidiary Director, TSMC affiliate	None	None	None
Vice President Research and Development/ Integrated Interconnect & Packaging Doug Yu	Male	R.O.C.	12/28/1994	225,000	0.00%	-	-	-	-	PhD, Materials Engineering, Georgia Institute of Technology, USA Senior Director of Integrated Interconnect & Packaging Division in R&D, TSMC	None	None	None	None

(Continued)

Title Name (Note 1)	Gender	Nationality	On-board Date (Note 2)	Shares Held		Shares Held by Spouse & Minors		Shares Held in the Name of Others		Education and Selected Past Positions	Selected Current Positions at Other Companies	Managers Who are Spouses or within Second-degree Relative of Consanguinity to Each Other (Note 3)		
				Shares	%	Shares	%	Shares	%			Title	Name	Relation
Vice President and TSMC Fellow More-than-Moore Technologies Alexander Kalnitsky	Male	U.S.	06/15/2009	-	-	-	-	-	-	PhD, Electrical Engineering, Carleton University, Canada Senior Director of More-than-Moore Technologies Division in R&D, TSMC	None	None	None	None
Vice President Business Development Kevin Zhang	Male	U.S.	11/01/2016	-	-	-	-	-	-	PhD, Electrical Engineering, Duke University, USA Vice President, Design and Technology Platform, TSMC Vice President, Technology and Manufacturing Group, Intel Corp.	None	None	None	None
Vice President and TSMC Fellow Operations/ Product Development T.S. Chang	Male	R.O.C.	02/06/1995	173,781	0.00%	-	-	-	-	PhD, Electrical Engineering, National Tsing Hua University Vice President, Fab 12B Operations, TSMC Senior Director, Fab 12B Operations, TSMC	None	None	None	None
Vice President Research and Development/ Platform Development Michael Wu	Male	R.O.C.	12/09/1996	478,501	0.00%	194,943	0.00%	-	-	PhD, Electrical Engineering, University of Wisconsin-Madison, USA Senior Director of N3 Platform Development Division in R&D, TSMC	None	None	None	None
Vice President Research and Development/ Pathfinding Min Cao	Male	U.S.	07/29/2002	363,152	0.00%	4,470	0.00%	-	-	PhD, Physics, Stanford University, USA Senior Director of Pathfinding Division in R&D, TSMC	None	None	None	None
Vice President Research and Development/ Corporate Research H.-S. Philip Wong (Note 4)	Male	U.S.	07/02/2018	-	-	-	-	-	-	PhD, Electrical Engineering, Lehigh University, U.S. Willard R. and Inez Kerr Bell Professor in the School of Engineering, Stanford University Senior Manager, IBM Research	None	None	None	None
Vice President Operations/ Advanced Packaging Technology and Service Marvin Liao	Male	R.O.C.	06/06/2002	50,485	0.00%	-	-	220,000	0.00%	PhD, Materials Science, University of Texas-Arlington, U.S. Senior Director, Backend Technology and Service Operations, TSMC Vice President, Chartered Semiconductor Manufacturing Ltd.	None	None	None	None
Vice President Operations/ Fab Operations Y.H. Liaw (Note 5)	Male	R.O.C.	08/03/1988	370,000	0.00%	-	-	430,000	0.00%	Master of Chemical Engineering, National Tsing Hua University Vice President, Fab 15B Operations, TSMC Senior Director, Fab 15B Operations, TSMC	None	None	None	None
Vice President Research and Development/ Advanced Tool and Module Development Simon Jang (Note 6)	Male	R.O.C.	09/01/1993	350,695	0.00%	663	0.00%	-	-	PhD, Materials Science & Engineering, Massachusetts Institute of Technology, U.S. Senior Director of Advanced Tool and Module Development Division in R&D, TSMC	None	1. Deputy Director 2. Manager	1. Sharon Jang 2. Jimmy Hu	1. sister 2. brother in law
Vice President and Chief Financial Officer/ Spokesperson Finance Wendell Huang (Note 7)	Male	R.O.C.	05/03/1999	1,651,418	0.01%	-	-	-	-	Master, Business Administration, Cornell University, U.S. Deputy Chief Financial Officer, TSMC Senior Director, Finance Division, TSMC Vice President, Corporate Finance, ING Barings Vice President, Corporate Finance, Chase Manhattan Bank Vice President, Corporate Finance, Bankers Trust Company	Director and/or Supervisor, TSMC subsidiaries President, TSMC subsidiaries Director, TSMC affiliate	None	None	None

Note 1: Vice President Dr. N.S. Tsai retired, effective May 1, 2019. Vice President Dr. Irene Sun retired, effective September 30, 2019.

Note 2: On-board date means the official date joining TSMC.

Note 3: President (or someone with an equivalent job responsibility, i.e. the highest ranking manager of the company) and Chairman are not (1) the same person, (2) in a marital relationship with each other, or (3) within one degree of consanguinity.

Note 4: Vice President Dr. Philip Wong resigned and became a special consultant to TSMC, effective April 1, 2020.

Note 5: Mr. Y.H. Liaw was promoted to Vice President, effective February 19, 2019.

Note 6: Dr. Simon Jang was promoted to Vice President, effective August 13, 2019.

Note 7: Mr. Wendell Huang was promoted to Vice President, effective September 1, 2019.

2.5.2 Compensation Paid to CEO and Vice Presidents (Note 1)

Unit: NT\$

Title	Name	Salary (A)		Severance Pay and Pensions (B) (Note 6)		Bonuses and Allowances (C) (Note 7)		Employees' Profit Sharing Bonus (D)				(A+B+C+D) as a % of Net Income (Note 8)		Compensation Received from Non-consolidated Affiliates or Parent Company
		From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC		From All Consolidated Entities		From TSMC	From All Consolidated Entities	
								Cash	Stock (Fair Market Value)	Cash	Stock (Fair Market Value)			
Chief Executive Officer	C.C. Wei	10,200,000	10,200,000	224,400	224,400	143,446,880	143,446,880	139,552,560	-	139,552,560	-	0.0850%	0.0850%	-
Vice President, Chief Financial Officer/ Spokesperson	Wendell Huang (Note 2)	1,324,400	1,324,400	29,137	29,137	8,282,931	8,282,931	7,293,712	-	7,293,712	-	0.0049%	0.0049%	-
Senior Vice President	Lora Ho	84,228,682	99,426,496	1,852,476	2,207,813	544,484,140	628,671,638	505,078,355	-	505,078,355	-	0.3289%	0.3578%	-
Senior Vice President	Wei-Jen Lo													
Senior Vice President	Rick Cassidy													
Senior Vice President	Y.P. Chin													
Senior Vice President	Y.J. Mii													
Senior Vice President	J.K. Lin													
Senior Vice President	J.K. Wang													
Vice President	N.S. Tsai (Note 3)													
Vice President	Irene Sun (Note 3)													
Vice President	Cliff Hou													
Vice President and General Counsel/ Corporate Governance Officer	Sylvia Fang													
Vice President	Connie Ma													
Vice President	Y.L. Wang													
Vice President	Doug Yu													
Vice President and TSMC Fellow	Alexander Kalnitsky													
Vice President	Kevin Zhang													
Vice President and TSMC Fellow	T.S. Chang													
Vice President	Michael Wu													
Vice President	Min Cao													
Vice President	H.-S. Philip Wong													
Vice President	Marvin Liao													
Vice President	Y.H. Liaw (Note 4)													
Vice President	Simon Jang (Note 5)													
Total		95,753,082	110,950,896	2,106,013	2,461,350	696,213,951	780,401,449	651,924,628	-	651,924,628	-	0.4188%	0.4477%	-

Note 1: Compensation policy, standards/packages, procedures, the linkage to operating performance and future risk exposure: The total compensation paid to the executive officers is decided based on their job responsibility, contribution, company performance and projected future risks the Company will face. It is reviewed by the Compensation Committee then submitted to the Board of Directors for approval.

Note 2: Mr. Wendell Huang was promoted to Vice President, effective September 1, 2019.

Note 3: Vice President Dr. N.S. Tsai retired, effective May 1, 2019. Vice President Dr. Irene Sun retired, effective September 30, 2019.

Note 4: Mr. Y.H. Liaw was promoted to Vice President, effective February 19, 2019.

Note 5: Dr. Simon Jang was promoted to Vice President, effective August 13, 2019.

Note 6: Pensions funded according to applicable law. In accordance with TSMC Procedure of Retirement, the pension payment to Dr. N.S. Tsai and Dr. Irene Sun amounts to NT\$28,084,800.

Note 7: The above-mentioned figures include the expense for the employees' cash bonuses distributed in May, August, November 2019 & February 2020, Company cars and gasoline reimbursement.

Note 8: Total compensation paid to the executive officers from TSMC in 2018 accounted for 0.4097% of 2018 net income. Total compensation paid to the executive officers from all consolidated entities in 2018 accounted for 0.4379% of 2018 net income.

Compensation Paid to CEO and Vice Presidents

	2019	
	From TSMC	From All Consolidated Entities and Non-consolidated Affiliates
NT\$0 ~ NT\$999,999	Rick Cassidy	None
NT\$1,000,000 ~ NT\$1,999,999	None	None
NT\$2,000,000 ~ NT\$3,499,999	None	None
NT\$3,500,000 ~ NT\$4,999,999	None	None
NT\$5,000,000 ~ NT\$9,999,999	None	None
NT\$10,000,000 ~ NT\$14,999,999	N.S. Tsai	N.S. Tsai
NT\$15,000,000 ~ NT\$29,999,999	Wendell Huang, Irene Sun, Simon Jang	Wendell Huang, Irene Sun, Simon Jang
NT\$30,000,000 ~ NT\$49,999,999	Connie Ma, Y.L. Wang, Doug Yu, Alexander Kalnitsky, T.S. Chang, Michael Wu, Min Cao, H.-S. Philip Wong, Marvin Liao, Y.H. Liaw	Connie Ma, Y.L. Wang, Doug Yu, Alexander Kalnitsky, T.S. Chang, Michael Wu, Min Cao, H.-S. Philip Wong, Marvin Liao, Y.H. Liaw
NT\$50,000,000 ~ NT\$99,999,999	Lora Ho, Y.P. Chin, Y.J. Mii, J.K. Lin, J.K. Wang, Cliff Hou, Sylvia Fang, Kevin Zhang	Lora Ho, Rick Cassidy, Y.P. Chin, Y.J. Mii, J.K. Lin, J.K. Wang, Cliff Hou, Sylvia Fang, Kevin Zhang
Over NT\$100,000,000	C.C. Wei, Wei-Jen Lo	C.C. Wei, Wei-Jen Lo
Total	25	25

2.5.3 Employees' Profit Sharing Bonus Paid to Management Team

Unit: NT\$

Title	Name	Stock (Fair Market Value)	Cash	Total	Total Employees' Profit Sharing Bonus Paid to Management Team as a % of Net Income
Chief Executive Officer	C.C. Wei	-	139,552,560	139,552,560	0.0404%
Vice President, Chief Financial Officer/ Spokesperson	Wendell Huang (Note 1)	-	7,293,712	7,293,712	0.0021%
Senior Vice President	Lora Ho				
Senior Vice President	Wei-Jen Lo				
Senior Vice President	Rick Cassidy				
Senior Vice President	Y.P. Chin				
Senior Vice President	Y.J. Mii				
Senior Vice President	J.K. Lin				
Senior Vice President	J.K. Wang				
Vice President	N.S. Tsai (Note 2)				
Vice President	Irene Sun (Note 2)				
Vice President	Cliff Hou				
Vice President and General Counsel/ Corporate Governance Officer	Sylvia Fang				
Vice President	Connie Ma	-	505,078,355	505,078,355	0.1463%
Vice President	Y.L. Wang				
Vice President	Doug Yu				
Vice President and TSMC Fellow	Alexander Kalnitsky				
Vice President	Kevin Zhang				
Vice President and TSMC Fellow	T.S. Chang				
Vice President	Michael Wu				
Vice President	Min Cao				
Vice President	H.-S. Philip Wong				
Vice President	Marvin Liao				
Vice President	Y.H. Liaw (Note 3)				
Vice President	Simon Jang (Note 4)				
Total		-	651,924,628	651,924,628	0.1888%

Note 1: Mr. Wendell Huang was promoted to Vice President, effective September 1, 2019.

Note 2: Vice President Dr. N.S. Tsai retired, effective May 1, 2019. Vice President Dr. Irene Sun retired, effective September 30, 2019.

Note 3: Mr. Y.H. Liaw was promoted to Vice President, effective February 19, 2019.

Note 4: Dr. Simon Jang was promoted to Vice President, effective August 13, 2019.