



About This Report

#### Introduction

This is Semiconductor Manufacturing International Corporation (SMIC)'s 8th Corporate Social Responsibility (CSR) Report released to the public, elaborating the principles to which SMIC had been holding fast to in its performance of CSR in 2016. This report mainly covers SMIC's important stakeholders' concerned topics relating to economy, environment and social sustainable development.

#### Reference Standards

This report is prepared in accordance with Environmental, Social and Governance Reporting Guide contained in Appendix 27 of the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited (SEHK) and in reference with the major principles set forth in Global Reporting Initiative(GRI)'s Sustainable Development Reporting Guide(GRI G4), Economics Division, Chinese Academy of Social Sciences' Chinese CSR Reporting Guide (CASS-CSR3.0), China Federation Of Industrial Economics(CFIE)'s Guidance on Social Responsibilities of Industries (CSRI-China), Chinese Electronics Standardization Association (CESA) SJT 16000-2016 Guidance On Social Responsibility Of Information And Communication Technology Industry, and ISO26000:2010 Guidance on Social Responsibility.

#### Organization Scope of the Report

The organization scope of this report covers SMIC and its subsidiaries and major shareholding companies and is consistent with the organization scope of SMIC's Annual Report. For the convenience of expression, Semiconductor Manufacturing International Corporation may be expressed as SMIC, "we" or "the Company". In addition, the "state" and "government" without full name in the report refers to People's Republic of China and its administrative organs.

• Time Scope of the Report

The time scope of this report is from January 1st, 2016 to December 31st, 2016. Some content or data may be traced back to previous years.

Report Release Cycle

SMIC CSR Report is released annually in Q2 for the previous year.

#### Information on Report Editing and Data Sources

This report is compiled, edited, or revised by SMIC's Public Relation Center/CSR Department on the basis of the company's functional departments' CSR related information and data from an editorial board consisting of members of the company's CSR Committee and is reviewed and approved by members of the CSR Committee before its submission to the company's Information Disclosure Committee for review and finalization.

Publication Forms of the Report

This report is published in both Chinese and English languages and released in hard copies or electronic copies. Electronic copies of the report are available at SMIC's official website: http://www.smics.com.

Contact Information

CSR Department, Semiconductor Manufacturing International Corporation Address: No.18 Zhangjiang Road, Pudong New Area, Shanghai, PRC Tel: (021)38610000 Fax: (021)50804000-05747 E-mail: qingyu\_yang@smics.com

# Contents

Message from the CEO	/01
Vision Statement	/04
Core Values	/04

#### About SMIC

Overview	/07
Semiconductor Market Overview	/08
Products and Services	/11
Innovation Management	/14
Information management mechanism	/15

#### 12

CSR Management Mechanism	/19
CSR Policy	/19
Topic Management	/20
Communication with Stakeholders	/21
CSR Awards	/24

**CSR Management** 

#### **Corporate Governance**

Governance Mechanism	/27
Information Disclosure	/28
Business Conduct and Ethics	/29
Compliance Mechanism	/29
Management System	/30

### Customer Service

Customer Service Strategy	/3
Customer Service System	/3
Product Quality and Reliability Control	/3
Customer Information Protection	/3
Customer Evaluation and Complaints	/3
Customer Satisfaction	/3

# 05

### Supply Chain Management

Supply Chain Overview	/39
Supplier Management Mechanism	/39
Conflict Minerals Management	/41

### Π4

#### **Environmental Protection**

Environmental Protection Policy	/45
Environment Management	/45
Greenhouse Gas Management	/45
Energy Management	/47
Hazardous Substance Control	/49
Water Resource Management	/50
Air Pollution Prevention and Control	/52
Waste Management	/52
Promotion of Environmental Awareness	/52

### Caring for Employees

Employee Overview	/55
Safeguarding of Rights and Interests	/55
Health and Safety	/56
Career Development	/58
Employee Life	/61



### Community Involvement

SMIC Private Schools	/69
Charity and Public Welfare	/72

## 09

#### Appendix

Index of "Environmental, Social and	/75
Governance Reporting Guide"	
SMIC Awards in 2016	/77
2016 CSR Index Summary	/78
Report evaluation and recommendations	/79



#### Dear All,

As one of the leading semiconductor foundries in the world and the largest and most advanced foundry in Mainland China, SMIC carries out a corporate social responsibility strategy to "Care for people, the environment, and society". We work hard and in close cooperation with all stakeholders to integrate social responsibility, environmental protection, defending human rights and caring for consumers, which is built into the company's core strategies and implemented in our business operations; whilst we continue to promote the implementation of corporate social responsibilities.

In 2016, SMIC achieved outstanding operating results. All of SMIC's production lines for various products experienced strong demand in the market. As of the last quarter of the year, we had achieved revenue growth for 8 consecutive quarters, profit for 19 consecutive quarters, and quarterly profit had exceeded US\$100 million for the first time during the year; meanwhile, sales revenue reached US\$2.9 billion, rising 30.3% compared to the previous year, which was three times greater than the industry average sales growth rate; both operating profit and net profit set new highs. Our achievements are undoubtedly owed to our team's efforts, and more importantly, to the support of the supply chain and the trust of our clients.

In 2016, we continued to make meticulous and dedicated efforts in developing our operational efficiency and research and development capability. With careful planning, based on the market, strengthening client relationships, and refinement of internal management, capacity utilization rate remained high at 97.5% in 2016. Our 28-nm technology was applied to the mainstream smartphone market and is undergoing continued expansion of production capacity. The development of 14 nm and below technologies proceeded as planned, with breakthroughs achieved. In April 2016, we signed an agreement with Jiangsu Changjiang Electronics Technology Co., Ltd. (JCET) and became JCET's shareholder, thus initiating a "new manufacturing" industrial model. In June, we acquired LFoundry in Italy, thus adopting our first overseas production base, by which we have expanded into the international market of automotive electronics. In October, to meet the ever-increasing needs for capacity, we initiated construction of our new 12-inch fab in Shanghai, South China's first 12-inch line in Shenzhen, and new 8-inch fab project in Tianjin. With such expansion preparations, we have laid a strong foundation for the company's future sustainable growth.

In addition to efforts in self-development, we are also committed to corporate social responsibility. In 2016, we were awarded for the first time, by the so called "Oscars of the Industry," "China's Industry Grand Awards: Commendation Award". This demonstrated recognition of our significant contributions to the promotion of

the han enter Trar confi ben To " Soc into our In 2 sucl Proj effo redu prof wor perf incli Inde hav in F Em for 1 and dev plat thei measure for 1 and for f

Employees are the foundation of corporate development. Caring for the well-being of employees and creating a favorable working and living environment is a prerequisite to ensure the sustainable development of the company. We believe that by providing a platform for employees to exhibit their intelligence and achieve their ambitions we can help them realize their aspirations: meanwhile, achieving a better future for the company. In 2016, the company renovated the dining hall to provide a better environment, optimized shuttle bus routes, and improved the working and living conditions for employees. SMIC's new Living Quarters in Tang Town, Shanghai was completed, and employees can begin to move in by the second quarter of 2017. The company strives to continue to create a more convenient and comfortable living environment for employees, in which they can work contentedly. As a part of society, SMIC must be closely linked to it. While the business continues to grow, we simultaneously implement corporate social responsibility and create sustainable development. As mentioned, we are committed to "Care for people, the environment, and society", striving to achieve continuous development and sustainable operation

dev Tha



the industry and to national economic growth. In 2016, we joined hands with industry peers and other socially responsible enterprises and continued to contribute to "SMIC's Liver Transplant Program for Children"; donating 4.61 million RMB; contributing to an aggregate donation of 11.98 million RMB, which benefitted 170 under privileged children with liver disease thus far To "Care for People, Protect the Environment, and Care for Society" is not just a vision, rather, it has been deeply incorporated into the blood of the enterprise and embodied in the behavior of our staff.

In 2016, we continued to be involved with public benefit activities such as volunteer blood donation, One-Million Trees Planting Program, and Zhang Jiang Charity Fun-Run. We continue to make efforts to promote energy-saving, water-saving, and emission reduction. We also organize public welfare and environmental protection activities, and we continue to create a safe and healthy working environment for our employees. Due to our outstanding performance in CSR and corporate governance, we had been included within Hong Kong's Hang Seng Corporate Sustainability Index ("HSSUS") for the sixth consecutive year, and once again have won the "Outstanding CSR Award" issued by the Mirror Post in Hong Kong.

Thank you for your continued attention and support to SMIC.

SMIC CEO Dr. Zhao Haijun June 2017

02 / SMIC



## **Vision Statement**

To be recognized by global customers and stakeholders as a high quality, innovative and trusted foundry.

## **Core Values**

Integrity We will be honest, defend important principles, commit to our words, and be responsible towards how our behavior influences the company

#### Customer Service

with the premise of following the company's information security policies and set up a long term win-win partnership with them.

mindset on total employee participation, putting quality first and continual improvements.

#### Execution

goals through rigorous planning, efficient execution, detail following up and timely problem resolution.

#### Innovation

We will foster innovation continuously and actively carry out product technology R&D, increasing productivity and optimizing work

We are all members of one SMIC team. Company goals will be achieved by cooperation between disciplines, all taking the proper ownership and accountability while understanding each other's role and







	07
or Market Overview	08
Services	11
anagement	14
nanagement mechanism	15

1) Acquired Tianjin 200mm Fab Phase 1 2) Publicly listed on NYSE 1) 55nm ramped up & SEHK 2) 40nm gualification success 3) Beijing 300mm Fab Phase Datang Holdings invested US SMIC was established \$172 Million in SMIC 1 commenced pilot production 90nm ramped up Ground breaking Shanghai 200mm Fab 65nm ramped up Al-inter ramped up 1) 40nm ramped up Shanghai 200mm Fab SMIC & Brite formed 2) BSI process breakthrough Shanghai 300mm Fab Cu-inter ramped up Shanghai 200mm strategic partnership 90nm pilot production Phase 1 commenced Fab completed pilot production

## **1.1 Overview**

............

Semiconductor Manufacturing International Corporation ("SMIC"; NYSE: SMI; SEHK: 981) was established in mainland China in 2000. By the end of 2016, SMIC had become one of the leading IC pure-play foundries in the world and the largest and most advanced pure-play foundry in mainland China. SMIC provides wafer foundry and technology services from 0.35-micron (µm) to 28-nanometer (nm) to customers worldwide. SMIC offers one-stop solutions ranging from IC design enablement and IP development services, mask making to wafer manufacturing, wafer sorting, wafer probing, wafer bumping, turnkey services, and assembly and final testing through a strong network of established partners. With complete foundry solutions, SMIC is committed to help customers to shorten time-to-market in the most cost effective way.

Headquartered in Shanghai, China, SMIC has established manufacturing and service bases worldwide. SMIC has a 300mm (12") wafer fabrication facility (fab) and a 200mm (8") mega-fab in Shanghai; a 300mm mega-fab and a joint venture 300mm (12") fab for advance nodes in Beijing; a 200mm (8") fab in Tianjin another 200mm (8") fab in Shenzhen; and a joint venture 300mm (12") wafer bumping joint venture in Jiangyin, China. In 2016, SMIC acquired the majority of shares of LFoundry, a 200mm fab located in Avezzano, Italy. In 2016, SMIC had a total of 224kWPM (thousands Wafers Per Month) 200mm (8") installed capacities and 81kWPM 300mm (12") installed capacities.

SMIC has sales and customer service offices in China, the U.S., Europe, Japan, and Taiwan, and a representative office in Hong Kong. Throughout SMIC's global locations, SMIC offers seamless services and support to its customers worldwide. With commitment for excellence, SMIC has been consistently delivering quality products and services to world class Integrated Device Manufacturers (IDMs) and Fabless IC design companies, and system companies. IC products that SMIC manufactured for customers are widely used in communication, computing, consumer, automobile, industrial and related applications. In 2016, SMIC once again achieved excellent operational results; its business performance in the year was so far the most impressive since its foundation. In the wake of the successful 2015, SMIC's performance hit record high in terms of almost all key indexes such as business revenue, gross margin, business profit, net profit, and rate of return on net assets. The company's total revenue in 2016 reached \$2.9 billion, up 30.3% on a year-on-year basis, that is, almost 3 times of the average growth rate of the pure-play fab industry. With a gross margin of \$850 million, the company achieved a net profit rate of 10.9% and a profit of \$377 million. For more financial information, refer to SMIC's annual report, available at : http://www.smics.com/eng/investors/ir\_report.php?year=2017

## **1.2 Semiconductor Market Overview**

#### 1.2.1 Global Market

According to IHS' research, the worldwide semiconductor revenue in 2016 was estimated to be around \$353.0B, a 1.8% year-to-year growth from 2015. On the other hand, the worldwide pure-play foundry revenue was estimated to be around \$49.5B in 2016, up 10.6% compared to that of the previous year. With the growing Fabless business model and rising IDMs' reliance on



Financial Index	2015	2016
Revenue (hundred million USD)	22.364	29.142
Growth Rate (%)	13.5%	30.3%
Net Profti Growth Rate (%)	65.7%	48.6%
Return on Equity (%)	6.8%	9.6%
Assets Liabilities Ratio (%)	41.8%	44.3%
Total Tax (million USD)	56	38*
R&D Input (million USD)	237.1	318.2
Ratio of R&D Input to Revenue (%)	10.6%	10.9%

\*Tax reduction of 2016 above last year is mainly due to decrease of business tax and land appreciation tax.

pure-play foundry for manufacturing advanced node products, leading pure-play foundries will continue to prosper. It's expected that the pure play foundry market will reach \$70.5B in 2020, with a 2016-2020 Compound Annual Growth Rate(CAGR) of 9.2%, outperforming the semiconductor market's 5.4% CAGR for the same period.

#### 1.2.2 The China Market

With the high concentration of electronics production activities, China continues to have the number one semiconductor demand in the world (roughly \$159.4B in 2016), which represents approximately 45% of worldwide semiconductor revenue.

The Chinese IC market has been growing rapidly in recent years. In 2016, the Chinese IC design market had reached \$19.8B, with a 30.9% year-to-year growth from 2015. By 2020, the potential domestic IC design revenue is expected to grow to \$56.5B, with 18.5% of CAGR 2016-2020e. SMIC, as the leading pure-play semiconductor foundry in China, has a dominating advantage to service both domestic Chinese Fabless as well as oversea IDMs and Fabless.

In 2015, the Chinese government declared the "Made in China-2025 (MIC-2025)" program, which is Chinese version of Industry 4.0. In MIC-2025, China aims to integrate and strengthen its information technology and industrialization through the implementations of smart, intelligent and green manufacturing. The MIC-2025 has ten focus areas, including Information Technology, Digital Machine & Robotics, Aerospace & Aviation, Green & New Energy Car, Advanced Rail Road, Oceanic Engineering, Power Equipment, Biomedical & E-Medicine, Agricultural Equipment, New Materials. The implementation of this initiative will bring vast opportunities for the electronic and semiconductor industries. Being in China and as a critical part of the semiconductor and electronic eco-system, SMIC plays an integral role as the up-stream technology supplier for many semiconductor, electronics, and system partners. Through continuous and seamless collaborations in the global eco-system, SMIC will contribute greatly and support worldwide players to succeed in the china market.



#### 1.2.3 SMIC's Competitive Advantages

SMIC is one of the few pure-play foundries in the world that are capable of offering a complete portfolio on both mature and advanced wafer manufacturing process technologies. SMIC has process technologies, ranging from 0.35-micron (µm) to 28-nanometer (nm) in mass production, and 14nm FinFET technology under development.

In 2016, SMIC was ranked as the 4th largest pure-play foundry in the world and had approximately 6% of market share according to IHS' analysis. SMIC has several competitive advantages listed and not limited to below:

· We offer one-stop service on both advanced technologies and specialty technologies.

- We continuously invest in R&D, IP developments, and eco-system building.
- We maintain high utilization rate compared to industry's global utilization rate.
- . We are the largest pure-play foundry in China with a complete product portfolio.
- We are the most preferred foundry by Chinese IC Designers.
- Our proximity to Chinese market, the largest and fastest growing region of electronic manufacturing and consumption.



Source: ARM 2015, SMIC Internal Analysis, 4Q2016

SMIC has improved its overall business operations through increasing its fabs' utilization rates and outperforming the industry on utilization rate. SMIC's utilization rate in 2016 reached approximately 98%, demonstrating the successful strategies of balancing the focuses on advanced and specialty technologies while keeping the company's fabs filled.



Over the past decade, SMIC has been the number one pure-play foundry in China. With its strong market position and proximity to China, numerous world class IC design companies have selected SMIC as their ideal foundry partner in China. SMIC has been selected by local Chinese IC design companies as their most preferred pure-play foundry in China in recent consecutive years. SMIC continues to win customers' trusts and partnerships through providing quality products and service to help customers to shorten time-to-market, offering value-added innovations on differentiated mature and advanced technologies, and building strategic partnership with customers for the China and the worldwide markets.



Source: Ministry of Industry and Information Technology(MIIT), 2011-2015

The most preferred pure-play foundry by Chinese IC designers

## **1.3 Products and Services**

SMIC is focused on balancing the developments of mature and advantaged technologies. Currently, SMIC offers a comprehensive product and technology portfolio.

SMIÇ	CIS	BCD	IGBT	HV (DDIC)	MS/RF	Logic	Embd. NVM	NOR Flash	NAND Flash	MEMS	TSV	RFSOI
14nm						0						
24nm									•			
28nm				0	•	•	0					
38nm									•			
40/45nm					•	•	0	•				
55nm	0				•	•	•					0
65nm					•	•		•				
90nm					•	•		•				
SPOCULL95				•	•	•	•					
0.11µm	•				•	•					•	
0.13µm	•	0			•	•	•					•
0.15/0.153µm	•	•				•						
0.18µm	•	•		•	•	•	•			•	•	•
0.25µm					•	•						
0.35µm		•	• *	•	•	•	•			•		

SMIC product and technology portfolio

Release / In Production

Major Focus (close to or in early production)

solutions at various technology nodes.

O Developing / Future Plan

SMIC offers a comprehensive technology portfolio comprising Logic, Mixed-Signal/RF, ULP devices, (Ultra-Low-Power), high-voltage/BCD, IGBT, non-volatile memory (NVM, such as NOR Flash, NAND Flash, and emerging memories), embedded NVM (eNVM such as eFlash, eEE-PROM, OTPROM),

\* IGBT is >0.35um

In 2016, SMIC was the first in China and amongst a few in the world to offer 28nm advanced process technology, which is one of the dominating nodes nowadays for mass market Smartphone AP, BB and SoC, Wireless Connectivity, Digital Consumers devices.

Display Driver IC (DDIC), Touch Control IC (TCIC), CMOS Image Sensors (CIS), Fingerprint Sensors, MEMS, TSV/3DIC, WLSCP, and related foundry

#### 1.3.1 Advanced Technologies 28nm Technologies

SMIC's 28nm technology is a mainstream industry technology and consists of both conventional PolySiON (PS) and gate- last high-k dielectrics metal gate (HKMG) processes. SMIC's 28nm technology was process frozen in 4Q13 and successfully entered Multi Project Wafer (MPW) stage to support customers' prototyping requirements on both 28nm PolySiON and 28nm HKMG processes. In 2015, SMIC has achieved successful yield improvement using our 28nm process technology for low-power and high performance mobile processors. In 4Q15, SMIC's 28nm technology entered mass production stage and started to have revenue contribution to the company. In 2016, SMIC 28nm technologies continued to yield stable supply to key pioneer customers and develop new business cooperation. As of today, over 150 IPs from multiple third party IP partners as well as SMIC's internal IP team are prepared to serve various projects from worldwide design houses that have been engaging with SMIC's 28nm process. Going forward, SMIC's 28nm process technologies will continue to target mobile computing and consumer electronic related applications, such as smartphone, tablets, wireless connectivity, DTVs, set-top boxes, networking, etc.

#### 45/40nm Technologies

SMIC is the first foundry in mainland China to offer 40nm technology. SMIC offers its 40nm Low Leakage (LL) process with 1.1V core devices of three threshold voltage levels as well as 1.8V, 2.5V and 3.3V I/O options to meet various design application requirements. The 40nm logic process combines the most advanced immersion lithography, strain engineering technique, ultra shallow junction and low-k inter-metal dielectric for power and performance optimization. The 40nm process technology enables high performance and low power consumption for applications such as baseband processors, application processors, high definition video processors, wireless connectivity, and other consumer and communication equipment.

#### 65/55nm Technologies

SMIC's 65nm/55nm process technology platform supports a wide range of IC products, including Logic, Mixed Signal, RF, BCD, NOR Flash, eFlash and CIS. With years of experience on 65/55nm mass production, SMIC has been successfully supporting customers to manufacture various IC products on 65/55nm for applications such as mobile computing, digital home, and mobile storage. SMIC's 65/55nm solutions provide customers with high and stable yields and rich proven IP platforms.

SMIC's 65nm/55nm logic technology combines improved performance and reduces power consumption and increases design possibilities and cost efficiency. Its logic process standard offerings for the Low Leakage (LL) platform has three threshold voltages core device options and 1.8V, 2.5V, 3.3V I/O options to provide a flexible design platform. In 2014, SMIC was the first pure-play foundry in the world to offer a 55eFlash (embedded Flash) solution for Smartcard and SIM Card applications. SMIC's 55eFlash was a breakthrough and has been in mass production since 4Q14.

In addition, in 2015, SMIC also introduced 55nm ULP (Ultra- Low-Power) platform which offers lower operating voltage, lower leakage current, and lower power consumption. Comparing to 55nm LL solutions at 1.2V operating voltage, SMIC's 55nm ULP at 0.9V operating voltage can offers up to 90% reductions on leakage current. SMIC's ULP also support eFlash and RF process, which makes it an ideal platform for low-power, low- data rate and connected applications, such as for wearable, smart home, smart lighting, smart appliances, smart city, industrial, and various applications in

### 1.3.2 Mature Technologies

#### 90nm Technologies

SMIC has multiple 90nm products in mass production at our 300mm facilities. With in-depth experience in process development, SMIC has made 90nm a vital technology node available to our customers worldwide. SMIC's 90nm process technology uses copper interconnect, low-k material to produce high-performance devices. SMIC's 90nm production at state-of-the-art 300mm facilities ensures cost optimization, providing customers with additional resources for further technology enhancements. This 90nm technology fulfills the ever-stringent requirements of power, performance, and integration for various applications. Furthermore, this technology can be customized to accommodate various design requirements including high speed, low power, mixed signal, RF, and to provide embedded solutions.

#### 0.13µm/0.11µm Technologies

Compared to the same device on SMIC's 0.15µm technology, SMIC's 0.13 µm technology enables a substantial die size reduction of more than 25% and performance enhancement by as much as 30%. The die size can be reduced by more than 50% and chip performance increased by more than 50% when compared to 0.18µm technology. SMIC's 0.13µm process technology uses an all-copper interconnect approach to drive high-performance devices while enabling cost optimization. Using eight metal layers with a poly gate length of down to 0.08µm, our 0.13µm technology offers generic devices with a core voltage of 1.2V and I/Os with supply voltage of 2.5V or 3.3V options. Low-voltage and low-leakage options are in mass production. 0.13µm libraries, memory compilers, I/O and simulated IPs from our partners are available via network.

#### 0.18µm Technologies

SMIC's 0.18µm process technology family includes logic, mixed signal/RF, high-voltage, EEPROM and OTP technologies, all of which are supported by an extensive range of libraries and IP. The technologies are based on a single poly, six- metal-layer process featured by a high gate density of over 100,000 gates per mm2 and are available in multiple voltages of 1.8V, 3.3V and 5V to customers. With these technologies, SMIC provides cost-effective and proven solutions at the 0.18µm node for smart cards, consumer electronics and various other applications. SMIC also offers customers flexible solutions with modules for embedded memory, mixed signal or RF CMOS.

#### 0.35µm/0.25µm Technologies

SMIC's 0.25µm Logic as well as mixed signal/RF CMOS (for 3.3V and 5V applications) are offered. SMIC provides cost-effective and proven solutions at the 0.35µm node for various consumer electronics and other applications. SMIC's 0.35µm process technology family includes logic, mixed signal/RF, high-voltage, EEPROM and OTP technologies. These are supported by an extensive range of libraries and IP.

#### SPOCULL--SMIC Poly Contact Ultra Low Leakage Technologies

SPOCULL<sup>™</sup> is an important special process in SMIC. SPOCULL stands for SMIC POly Contact for Ultra Low Leakage. SPOCULL<sup>™</sup> consists of two technology platforms, i.e. 95nm SPOCULL-HV platform and 95nm SPOCULL-ULP process platform, targeted for High Performance Analog and RF, and Ultra Low Power MCU applications. 95nm SPOCULL-HV process is developed for display driver IC applications, while 95nm SPOCULL-ULP process is for IoT related applications. With its 8″ technologies, SPOCULL<sup>™</sup> offers VLSI solutions and minimum size static RAMs that have excellent transistor characteristics including low leakage current, low power consumption and low parasitic capacitance.

SMIC's SPOCULL<sup>TM</sup>, which is an innovative approach on differentiated 8" process technology, was introduced in 2015 in SMIC's technology

portfolio. Through SMIC's innovative designs on refining semiconductors' device structures, SPOCULL offers 2 times gate density when compared to traditional 0.13LL technology at 8" domain. As a result, SMIC's SPOCULL currently is the highest density solution at 8" technology in the world. SPOCULL is also a performance driven technology that offers low parasitic capacitance, low leakage and low power consumption. There are two versions of SPOCULL offered at SMIC: SPOCULL-HV and SPOCULL-ULP, targeted for High Performance Analog and RF, and Ultra Low Power MCU applications. Going forward, more derivative versions of SPOCULL technologies will be developed at SMIC for supporting wider ranges of IC devices and applications, including mobile computing, digital consumers, and IoT related applications.

#### 1.3.3 IC and Application Scopes

In general, SMIC's foundry solutions are applied and not limited to these corresponding applications. More than 80% of SMIC's revenue comes from communication and consumer sectors with driving applications such as smartphone/feature phones, tablets, DTV, STB, smartcards, DSC/DV, home appliances, memory storages, consumer electronics and etc. SMIC acquired the majority of LFoundry's shares in 2016 for accession to global automotive electronics market and achieved revenue growth by the addition of automotive and industrial applications.



IC and Application Scopes

### 1.3.4 IC Services

#### IP Development Service & Design Service

SMIC offers a vast and diverse portfolio of semiconductor intellectual property (IP) blocks from 0.35µm to 28nm to support the design needs of customers. SMIC's design services support customers' designs for production, using proven technologies to allow improvements in chip complexity, performance and functionality, while reducing power consumption and optimizing die size. SMIC's services minimize chip design risk and shorten products' time-to-market.

#### Mask Making Service

SMIC's mask shop provides mask manufacturing service for SMIC's foundry customers and other fabs and institutions. Currently, SMIC has Chinese largest and most advanced mask making facility with 0.50µm to 28nm in production and also with 20nm and 14nm capability. Equipped with state-of-the-art equpment and tools, the facility offers binary masks and phase shift masks complete with optical proximity correction(OPC). Both 5"×5" and 6"×6" reticles are available for G-line, I-line, DUV and ArF steppers and scanners.

#### Multi Project Wafer (MPW) Service

SMIC's Multi-Project Wafer (MPW) program provides customers a cost-effective prototyping service by enabling multiple customers and projects to share common mask and engineering wafers. Currently, SMIC provides shuttle service for processes from 0.18µm to 28nm on a regular basis.

#### Wafer Probing and Testing Services

SMIC's test facility provides customers with quick turnaround and strict quality control for wafer-level testing. Equipped with advanced testing and laser repair machines, SMIC's test facility offers customers comprehensive testing services in 200mm and 300mm wafer sizes. Services offered include wafer probing, epoxy probe card building and repair as well as testing for contact and contactless IC card types. SMIC's wafer probing service includes test program development as well as failure analysis and reliability testing. SMIC can build repair and maintain epoxy probe cards up to 16 DUTs as well as low-leakage probe cards.

#### **Bumping Service**

Bumping is a necessity for wafer yield testing of advanced front- end IC manufacturing technologies, and the basis of the 3D wafer level packaging technology development. SMIC can offer 8" bumping service in-house and also founded a joint venture with JCET for 12" bumping and related testing service.

SMIC's bumping line is capable of lead-free solder bump processing, redistribution layer (RDL), WLCSP processing, and Die Processing Services (DPS). The solder bumping processes are compatible with both Al and Cu pads. This service can be used on products such as SoC, RF devices, and high performance ICs that require flip chip or wafer-level chip scale packaging. DPS, which takes either bumped or WLCSP products from wafer form into die form (including processes such as testing, die saw and tape & reel), is also offered for customers who require backend services.

## **1.4 Innovation Management**

SMIC attaches much importance to innovation management and incorporates innovation as an important component of its corporate culture. We had established a management system ideal for innovation and actively cooperated with institutions outside the company.

#### 1.4.1 Innovation Mechanism

Focusing on in-house development, SMIC has established independent R & D department and has been continuously investing in technology innovation and intellectual property. SMIC, employing more than 1,000 R&D workers, spent \$3.182 million for research and development in 2016, which accounted for 10.9% of the total sales.



In addition to in-house development, SMIC also pays much attention to the cooperation with universities/colleges, research institutions and customers in R & D.

On May 16, 2016, SMIC and UC Riverside, Peking University and Shanghai Research Institute of Microelectronics jointly set up a electrostatic protection design center to develop first-class advanced ESD protection design methods in the industry, focusing on the research and develop of on-chip or mixed ESD protection technology for advanced FinFET technology and wireless communication circuits.

Relying on major National Projects and its own technology capabilities, SMIC's Technology R&D Center actively carries out technical cooperation with and provides technical services to local enterprises and closely cooperates with local equipment & material suppliers, and has completed evaluations of 21 IC installations and materials from 65nm technology to 28nm technology in our own mass production lines in our efforts to provide technical support and platform to promote the upgrade and development of China's equipment manufacturing and material production technology.

SMIC's Quality and Reliability Engineering Center actively cooperates with Chinese universities/colleges for training more quality and reliability professionals for IC industry and integrating available resources and studies to solve tough problems encountered during its development of technologies. Presently SMIC is cooperating with Shanghai Jiao Tong University to develop a reliability management platform for early detection of abnormalities in production by big data analysis; it also works with Xidian University to carry out studies on semiconductor process fault detection and classification by the combination of multiple data mining methods and SPC technology.

#### 1.4.2 Innovation Achievements

#### Patent Achievements

By the end of 2016, SMIC had a cumulative 13,417 patents filed and 6,603 patents granted. As a result, SMIC is amongst the top-5 companies in China for patents granted. In the 2016 State of Innovation Report issued by Thomson Reuter, SMIC is ranked in 7th place in the TOP10 Global Innovators--Semiconductors according to the data from Derwent World Patent Index. Moreover, SMIC is ranked in 4th place in Asian Semiconductor Material and Technology Innovators.(2011-2015).



#### Product Achievements

SMIC reached numerous extraordinary achievements in 2016.

In the development of 14nm technology, SMIC established a CMOS process flow with all expected technological characteristics. Devices manufactured with this process flow implemented a multiple-critical-voltage scheme and demonstrated SRAM unit functions with performance and reliability close to design targets. SMIC was ranked in 5th place in terms of 14nm- and higher technologies based FinFET patent applications.

SMIC Beijing Fab successfully started the mass production of the 28nm Poly-SiON technology based Qualcomm®Snapdragon™425 processors.

SMIC continued to invest in ULP special process technologies for use in Internet of Things(IoT), Cloud Computing, Smart Devices, and in other future technologies such as PMIC, RF/Wireless technologies, RFSOI, CMOS imaging sensor(CIS), MEMS/sensor, and embedded memories. Currently, SMIC has taken the lead in China in many technologies, including 55nm eFlash for bank card chips, 38nm NAND flash(for OEM of products for domestic customers), BSI CMOS imaging sensors(8-megapixel), 95nm SPOCULL (SMIC-Poly- Contact- Low Leakage) technology, and TSV-based CSP technology that has 10 times lower leakage current and 2 times higher chip integration scale.

## **1.5 Confidential Information Protection**

SMIC attaches much importance to the protection of in-house developed intellectual property and customers' confidential information based on its philosophy of protecting the the optimal interest of the company, its shareholders, customers, suppliers, and employees. We have established a comprehensive protection system and mechanism covering management system optimization, technology-based control and information security consciousness promotion to safeguard information security and the system has been certified against ISO27001:2013 Information security management system.



#### 1.5.1 Information management mechanism

The company has set up Information Security Steering Committee and Co-ordinating Committee to effectively stipulate, integrate, strengthen, and implement the company's confidential information protection policy(CIPP) covering physical security, data security and FAB security and personal information security protection strategy.



#### 1.5.2 Comprehensive technology-based control and monitoring system

The company has built a technology-based information security protection and monitory system by continuously strengthening its information security team and optimizing its control over physical environment, network access, identity authentication, confidentiality of data communication and data storage, and data use.

- Effectively visitor registration, access control and monitoring systems have been established to standardize visitor access and information security protection.
- The company's physical areas have been classified into areas of different control levels and subjected to cascade protection according to the confidentiality level of the business involved.
- An effective access control mechanism is established to protect the company's and customers' confidential information and access to such information is centralizedly managed by application and authorization.
- Relevant audits are regularly carried out on the access, transmission and storage of specific confidential data in order to ensure the continuous effectiveness of the control. · Processes are established for monitoring, reporting, handling and improving information security events to effectively reduce the risk of confidential information divulgence and to improve the effectiveness of protection and control.

#### 1.5.3 Education on and promotion of security consciousness

In 2016, the company organized the first information security promotion week themed "Be a Security Conscious Employee". Security awareness training and evaluation were carried out on all employees to improve their ability to actively guard against social engineering fraud. Information security knowledge contests were organized to incite employees' enthusiasm in learning and practicing information security knowledge and improve their consciousness and capability of protecting confidential information. The company also put online an "information security policy" themed training course and designated it as a mandatory course of the year for all employees in order to help them to understand the company's confidential information protection policy.





agement Mechanism	19
су	19
nagement	20
ication with Stakeholders	21
rds	24

## 2.1 CSR Management Mechanism

In order to promote the company's efforts to fulfill the goals of its CSR policy, SMIC established a CSR Committee in 2015. The committee is under the board of directors and chaired by the company's CEO, with the company's legal affairs/public relation/administrative affairs deputy president as its vice chairmen and representatives from the functional departments as committee members. The committee involves such departments as the material purchasing center, IT center, customer engineering center, HR, legal affairs, public relation, general affairs, labor union, technological R & D, design service, business operation, and factory affairs department in the promotion of the company's CSR efforts. The committee regularly convenes the functional departments to hold

monthly meetings and reports the company's progress in CSR efforts to the management quarterly and makes a CSR summary report to the company's board of directors and employees annually.

Responsibilities of the CSR Committee include: preparing CSR development program for the company; fixing CSR goals and promoting their fulfillment; supervising the functional departments' CSR work; proposing/discussing/planning the company's CSR-related topics and promoting the solving of problems; seeing to the legal compliance of the company's CSR efforts; helping the company to achieve sustainable development and promoting the company's care for mankind, environment, and the society.



2.2 CSR Policy

As an international company listed on the Stock Exchanges of New York and Hong Kong since 2004, SMIC strictly complies with legal requirements for corporate governance, financial accounting, and transparent reporting. SMIC's business practices are ethical, safe, environmental friendly, and fair to all employees and in line with all applicable laws, rules, and regulations of the countries where it operates.

In addition to obeying the letter and mandates of such laws, we seek to promote our CSR practice. Through our CSR Program (www.smics.com/eng/about/csr.php), we hope to advance social, environmental, and ethical responsibility according to internationally recognized standards. In short, we intend to remain worthy of our inclusion in the Hang Seng Corporate Sustainability Index Series as a company that has "attained a high standard of performance in the environmental, social and corporate governance areas"(http://www.hsi.com.hk/HSI-Net/).

To achieve these goals

- 1. We declare our support for the Electronic Industry Citizenship Coalition® Code of Conduct (http://www.eiccoalition.org/stan dards/code-of-conduct/) and will actively pursue conformance to the Code and participation by our suppliers.
- 2. We uphold the human rights of our staff and the highest standards of business integrity, as required by the EICC Code, the SMIC Code of Business Conduct & Ethics (www.smics.com/ eng/investors/ir\_eth ics.php), SMIC Human Resources policies, and all other SMIC policies.
- 3. We strive to maintain a safe workplace for our employees and a healthy environment for the public while minimizing adverse effects on the community, environment, and natural resources, consistent with our Environmental Protection, Safety,& Health Policy and our related ISO

and other international certifications (www.smics.com/eng/about/esh.php).

4. We will develop and maintain management systems to implement this CSR Policy with continual improvement as part of a holistic CSR Program. (Copy of signed original available at www.smics.com/eng/about/csr.php)

As of 2013, SMIC has been evaluating the company and its sites' environment, safety, labor and ethics management with the EICC-ON system and establishing plans for continual improvement in light of identified risks. For the company and all of its sites, the evaluation results

## 2.3 Topic Management

#### 2.3.1 Management Mechanism

- CSR Reporting Guide(CASS-CSR3.0), Guidance On Social Responsibility Of Information And Communication Technology Industry, GRI Sustainable Development Reporting Guide(GRI G4), ISO 26000: 2010 Guidance on Social Responsibility.
- · Issue integration: stakeholders' topics under investigation were evaluated, selected and summarized as appropriate. • Issue analysis: stakeholders' topics were investigated, the investigation results of concerned topics were assessed and analyzed, and the concerned topics were sequenced according to their priority.
- Issue review: The investigation and analysis results were reported to the CSR Committee for review and then to the company's management for approval.

#### 2.3.2 Analysis of Concerned Topics

Questionnaire surveys on stakeholders' concerned topics were carried out as usual in 2016 and a total of 2,167 feedbacks were received from stakeholders such as the company's employees at different levels, suppliers, customers, government, media, non-profit making organizations, and communities. Results of the analysis and evaluation are shown in the following chart.



in 2016 suggested low risk and the company and the sites had received the field audits by key customers.

SMIC not only follows the conduct code for electronic industry itself but requires its suppliers to follow the code as well in their performance of CSR. It will evaluate its suppliers against the code in the future.

• Issue collection; Stakeholders' concerned topics were selected in accordance with Environmental, Social and Governance Reporting Guide(ESG), Chinese

## 2.4 Communication with Stakeholders

#### 2.4.1 Communication Management

Nine categories of major stakeholders were identified by SMIC according to their dependence, responsibilities, influence, diversified viewpoints, and tension.



SMIC bent on protecting stakeholders' rights and interests and maintained good communication with stakeholders on international and social trends and status quo of the company and responded to stakeholders' requirements.via members of the CSR Committee.

Project	Description	
Identification of major stakeholders and concerned topics	CSR Committee responsible for coordination	per annum
Stakeholder communication planning and execution	CSR Committee and relevant departments to establish the communication channel with stakeholders	per plan
Stakeholder communication results verification	CSR Committee to discuss and report stakeholder communication results and to feed back important concerned topics	per annum
Disclosure	CSR Report	per annum

SMIC had established transparent and effective multiway communication channels with all stakeholders to find out their needs and their expectations of the company for the reference basis of its CSR policy-making and planning.

Stakeholder	Interactive Object	Channel/Form of Communication	Subject of Concern	Measures adopted in 2016
Employees	* Whole staff	<ul> <li>Staff Meeting</li> <li>E-Mail Information Bulletin</li> <li>Intranet Site</li> <li>Ethics hotline</li> <li>SMIC magazine</li> </ul>	<ul> <li>Employee benefits</li> <li>Future growth potential</li> <li>SMIC competitive strengths in industry</li> <li>Talents retention</li> <li>Staff training and education</li> <li>Physical and mental health of employees</li> <li>Personal career development of employees Labor union</li> <li>Corporate governance</li> </ul>	<ul> <li>4 quarterly staff meetings</li> <li>Restaurant renovation, bus route optimization</li> <li>Annual meetings of each plant company</li> <li>Annual corporate games</li> <li>Establishment of Tang Town SMIC Living Quarter</li> <li>Talent contest</li> <li>Short film contest</li> <li>All club events and sports competitions</li> <li>Culture promotion activities</li> <li>Volunteer public welfare activities</li> </ul>
Shareholder/ Investor	<ul> <li>Shareholder</li> <li>Investor</li> <li>Analyst</li> <li>Financial &amp; economic media</li> <li>Hong Kong Stock Exchange</li> <li>New York Stock Exchange</li> </ul>	<ul> <li>Annual general meeting (AGM)</li> <li>Extraordinary general meeting (EGM)</li> <li>Quarterly Earning Release</li> <li>Global investment institutions conferences</li> <li>Non-deal roadshow</li> <li>Communication via face-to-face meetings, telephone and E-mail, regular feedback collection</li> <li>Meeting and communicating with financial media regularly</li> <li>Release of annual and semiannual reports, disclosure of information requested by U.S. Securities &amp; Exchange Commission (SEC), corporate social responsibility report, aperiodic news published on company website</li> </ul>	<ul> <li>Semiconductor outlook</li> <li>SMIC competitive strengths in industry</li> <li>Future growth potential</li> <li>Continued improvement in profitability</li> <li>Corporate strategy</li> <li>Chinese market outlook</li> <li>Changes with top executives</li> </ul>	<ul> <li>1 AGM</li> <li>3 EGMs</li> <li>4 investor conferences</li> <li>2 communication conferences with financial &amp; economic media</li> <li>9 NDRs</li> <li>27 seminars of investment institutions</li> <li>744 meetings (including telephone conferences)</li> </ul>
Customers	<ul> <li>Sales/technical support team</li> <li>Quality control department</li> </ul>	<ul> <li>Semi-annual customer satisfaction survey</li> <li>Quarterly customer business / quality / technical review meetings</li> <li>Customer 24-hour hotline consulting service</li> </ul>	<ul> <li>Customer service and satisfaction</li> <li>Innovation management</li> <li>SMIC competitive strengths in industry</li> <li>Green products</li> <li>Confidential information protection</li> <li>Conflict minerals management</li> <li>Electronic Industry Citizenship Coalition (EICC)</li> </ul>	<ul> <li>Completed 2 semi-annual customer satisfaction surveys and related action plans</li> <li>Convened 4 quarterly business review meetings</li> <li>Held 4 quarterly quality review meetings</li> <li>Convened 1 annual technical seminar</li> <li>Answered 96 customer questions on conflict minerals management</li> <li>Responded for 47 times to EICC related customer investigations, and received 2 customer on-site audits</li> </ul>
Suppliers	• Raw material suppliers	* Rating, on-site audits, supplier surveys	<ul> <li>Quality, price, delivery and service</li> <li>Corporate governance</li> <li>Supply chain management</li> <li>Pollution prevention</li> <li>Conflict minerals management</li> <li>Regulatory compliance</li> </ul>	<ul> <li>Semi-annual rating: concerning quality, price, delivery, service, pollution prevention, etc.;</li> <li>On-site supplier audit: concerning corporate governance, supply chain management, regulatory compliance, etc.;</li> <li>Questionnaire survey for suppliers: concerning conflict minerals management, corporate governance, regulatory compliance, etc.</li> </ul>

Stakeholder	Interactive Object	Channel/Form of Communication	Subject of Concern	Measures adopted in 2016
Government	<ul> <li>National and local governments</li> <li>National and local industry associations</li> </ul>	<ul> <li>Documents, meetings (orientation meetings, lectures), interviews</li> <li>SMIC briefing</li> </ul>	<ul> <li>Future growth potential</li> <li>Semiconductor outlook</li> <li>SMIC competitive strengths in industry</li> <li>Pollution prevention</li> <li>Continued improvement in profitability</li> <li>Innovation management</li> </ul>	<ul> <li>Regularly published SMIC briefings to all levels of government departments</li> <li>Received visits and inspections by all levels of government, reporting status of the company</li> <li>Disclosed pollutant emission data on the company's website</li> <li>Participated in policy propaganda meetings, symposiums, situation forecast meetings, market promotion meetings and so on</li> </ul>
Media	<ul> <li>Print media: newspapers and magazines</li> <li>Electronic media: Network, WeChat, TV, radio</li> </ul>	<ul> <li>Press release</li> <li>Interviews and special reports</li> <li>Press conference</li> <li>Social media release</li> </ul>	<ul> <li>SMIC competitive strengths in industry</li> <li>Future growth potential</li> <li>Continued improvement in profitability</li> <li>Innovation management</li> <li>Social participation</li> <li>Employee benefits</li> </ul>	<ul> <li>Invited media to report SMIC's acquisition of LFoundry from Italy, and the groundbreaking ceremonies for new production lines of Shanghai, Shenzhen and Tianjin, and looking into the company's future development plan.</li> <li>Made the "Future Created by SMIC" official propaganda film, introducing the development process, layout and performance, technology and team, and social responsibility of SMIC International, and publicizing the corporate culture and values.</li> <li>Organized international and domestic mainstream media to visit SMIC production base and patent wall, showroom, etc., and reported SMIC's achievements in patents and technology innovation, so that the high-tech chip industry and SMIC would be more profoundly known by the outer world.</li> <li>Organized jointly with Renji Hospital to hold "SMIC Liver transplant program for Children " charity activity and called for social love by media reports.</li> <li>Invited media to participate in "Staff Open Day", "SMIC Games" and other events, and to visit the company's living quarters; a number of media reported SMIC as a typical CSR fulfilling company.</li> </ul>
Community/Non- profit Organizations	<ul> <li>Nursing home</li> <li>Orphanage</li> <li>Public welfare organization</li> <li>Living quarter</li> </ul>	<ul> <li>Regular visits</li> <li>Participation in public welfare activities</li> <li>Environmental protection campaigns</li> </ul>	<ul> <li>Social participation</li> <li>Pollution prevention</li> <li>Employee participation</li> <li>External cooperation</li> <li>Regulatory compliance</li> </ul>	<ul> <li>The staff visited nursing home for 6 times and orphanage for 2 times: chatting and accompany, performances, health check, etc</li> <li>Organized jointly with Urban Wilderness a public welfare activity of protecting biodiversity of local species</li> <li>Held 3 second-hand goods recycling activities in the living quarter</li> </ul>

#### 2.4.2 Association memberships

- Chairman of China Semiconductor Industry Association
- Vice President of China Information Technology Industry Federation
- Member of China Association of Health Promotion and Education
- Member of High-End Chip Alliance
- Vice President of Shanghai Integrated Circuit Industry Association
   Member of Shanghai Association of Enterprises with Foreign Investment

## 2.5 CSR Awards

#### 2.5.1 Hang Seng Corporate Sustainability Benchmark Index

In 2016, SMIC was selected as a constituent of the Hang Seng Corporate Sustainability Benchmark Index for the sixth consecutive years. The benchmark index consists of sustainability-focused constituent stocks. A listed company must have attained a high standard of performance in the environmental, social, and corporate governance aspects. Visit www.hsi.com.hk/HSI-Net for more details.



#### Certificate of Membership

This is to certify that

#### Semiconductor Manufacturing International Corporation

is a constituent company of the Hang Seng Corporate Sustainability Index Series

September 2016

The Hang Seng Corporate Sustainability Index Series, launched by Hang Seng Indexes Company Limited, includes companies that perform well in corporate nutainability.

Companies in the Hang Seng Corporate Sustainability Index Series have attained a high standard of performance in environmental, social and corporate governance aspects.

> Vincent Kuran Vincent Kwan Dissour and General Manager Hang Sog ladom Company Landed



- Member of Shanghai Pudong New Area Association of Enterprises
   with Foreign Investment
- Vice President of Environmental Protection Association of Pudong New Area
- Member of Shanghai Fire Protection Association
- Member of Tianjin Municipal Work Safety Management Association

## 2.5.2 Mirror Post "Outstanding Corporate Social Responsibility" Award

In 2016, SMIC received the Outstanding Corporate Social Responsibility (CSR) Award for a third consecutive year in the Fifth Annual Outstanding CSR Award Ceremony hosted by Hong Kong's Mirror Post.



Jiang Min (3rd from left) of Public Affairs Center, SMIC, receives Mirror Post "Outstanding Corporate Social Responsibility" Award on behalf of the company

# 03 **Corporate Governance**

Governance Mechani Information Disclosu Business Conduct ar Compliance Mechanis Management System

SMIC

ism	27
re	28
nd Ethics	29
sm	29
	30

## 3.1 Governance Mechanism

SMIC is committed to corporate transparency and pays high attention to the shareholders' interests. The Company's corporate governance is underpinned by its sound and effective Board of Directors. Under this principle, the Board of Directors authorizes its committees to assist the Board to perform the supervision duties. The charter of each committee shall be subject to approval of the Board and the chairman of each committee shall report its proposals and resolutions to the Board on a regular basis.

SMIC will remain as a good corporate citizen through high standards of corporate governance and corporate transparency. In view of a good credit record, SMIC has been included in Hang Seng Mainland 100 Index (HSML100). For more information, please refer to http://www.smics.com/download/Corporate\_Governance\_Policy\_tc.pdf

#### 3.1.1 Board of Directors

Our Board of Directors monitors and supervises the affairs of the Company in order to maximize shareholder's value. The Board itself, or through board committees, actively participates in and is responsible for establishing the overall strategy of SMIC, setting and monitoring the corporate goals and objectives, overseeing the financial performance and the preparation of accounts, formulating the corporate governance practices and policies, and reviewing the internal monitoring and control system. The management is responsible for the implementation of the overall strategy and its daily operations and administration. The board has access to the senior management to discuss enquiries on management information.

Among its governance duties, the Board:

- (1) Develops and reviews SMIC's policies and practices on corporate governance;
- (2) Reviews and monitors the training and continuous professional development of the directors and senior managers;
- (3) Reviews and monitors our policies and practices on compliance with legal and regulatory requirements;

(4) Develops, reviews, and monitors our code of conduct and other policies and procedures which are applicable to employees and directors.





#### Board of Directors

Committees governed by the Board of Directors include Compensation Committee, Nomination Committee, Audit Committee and Strategic Advisory Committee. The following table keeps track of what positions the Board members take up in these committees:

Decad Manshar	Position				
board member	Audit Committee	Compensation Committee	Nomination Committee	Strategic Advisory Committee	
Zhou Zixue	-	-	Chairman	-	
Gao Yonggang	-	-	-	-	
Tzu-Yin Chiu	-	-	-	Member	
Chen Shanzhi	-	-	-	Chairman	
Zhou Jie	Member	Member	-	-	
Ren Kai	-	-	-	Member	
Lu Jun	-	-	Member	-	
Tong Guohua	-	Member	-	-	
William Tudor Brown	Member	Chairman	Member	Member	
Lip-Bu Tan	Chairman	Member	Member	Member	
Carmen I-Hua Chang	-	-	Member	-	
Shang-Yi Chiang	-	Member	-	-	
Jason Cong	-	-	-	-	

#### Compensation Committee

The Compensation Committee (1) reviews and recommends executive compensation philosophy, strategy, and principles; (2) reviews, approves, and oversees new and existing employment, consulting, retirement, and severance agreements proposed for our directors, executive officers, and other officers; (3) ensures appropriate oversight of our human resource policies; and (4) reviews strategies to fulfill our ethical, legal, and human resource responsibilities. Committee members include Mr. William Tudor Brown (Chairman), Mr. Lip-Bu Tan, Mr. Zhou Jie, Mr. Tong Guohua and Mr. Jiang Shangyi. The Committee reports to the Board at the quarterly Board meetings. See www.smics.com/attachment/20130430003.pdf for more information.

#### Nomination Committee

The Nomination Committee ensures that the Board has an effective size, structure, and composition to meet its fiduciary obligations to shareholders and execute its corporate strategy. The members of the Nomination Committee include Dr. Zhou Zixue (Chairman), Mr. Lip-Bu Tan, Ms. Carmen I-Hua Chang, Mr. William Tudor Brown and Mr. Lu Jun. The Committee periodically reports its decisions and recommendations to the Board. See www.smics.com/attach-

ment/20130814173201001715491\_en.pdf for more information.

#### Audit Committee

The Audit Committee oversees our accounting, financial reporting processes, and the audits of financial statements. The duties and responsibilities include: (1) the quality and integrity of our financial statements and related disclosures; (2) our compliance with legal and regulatory requirements; (3) the independent auditor's qualifications and independence; (4) the performance of our internal audit function and internal controls. Committee members include Mr. Lip-Bu Tan (Chairman), Mr. William Tudor Brown and Mr. Zhou Jie. The Committee reports to the Board regularly, and also meets in person with SMIC's external auditor at least twice a year.

Strategic Advisory Committee

The Strategic Advisory Committee's duties, responsibilities and authority are (1) to evaluate and consider any strategy; (2) to contribute and participate in discussions with potential strategic partners with respect to any strategic alternative; (3) to make recommendations to the Board and the management of the Company with respect to any strategic alternative. Members include Mr. Chen Shanzhi (Chairman), Mr. Tzu-Yin Chiu, Mr. William Tudor Brown, Mr. Lip-Bu Tan and Mr. Ren Kai.

### 3.1.2 Other Corporate Governance Departments

#### **Risk Management Committee**

Our risk management committee (RMC) is led by our CEO and composed of all relevant executives and managers. It identifies and assesses enterprise-wide risks, monitors risk management efforts, and reports on the effectiveness of enterprise risk management programs. Specifically, the RMC: (1) develops risk management strategy; (2) establishes, reviews, and approves policies and procedures to control risks and prevent fraud; (3) determines risk tolerances for measurement; (4) prepares a risk management implementation plan and assigns responsibilities; (5) designs education and awareness programs and their implementation plans. Key risks include legal risks, credit risks, market risks, operational risks, environmental risks, and systemic risks. The RMC often performs its functions during the CEO's Weekly Staff Meetings, a related tool of senior management with similar membership.

#### Internal Audit Department

Internal Audit Department works with and supports the Group's management team and the Audit Committee to evaluate the effectiveness of and contribute to the improvement of risk management, internal control, and corporate governance systems. On an annual basis, the risk-based audit plan and resources are reviewed and approved by the Audit Committee. In addition to its agreed plan, the Internal Audit Department audits areas of concern identified by senior management or conducts reviews and investigations on an ad hoc basis. Audit results are reported to the Chairman of the Board, the Chief Executive Officer and relevant management of audited departments. A summary of audit reports is quarterly reported to the Audit Committee. Based on this annual audit plan, the Internal Audit Department audits the practices, procedures, expenditure and internal controls of the various departments in the Group. In conducting these audits, the Internal Audit Department has free and full access to all necessary functions, records, properties and personnel.

After completing an audit, the Internal Audit Department furnishes the Group's management team with analysis, appraisals, recommendations, counsel, and information concerning the activities reviewed. Appropriate managers of the Group are notified of any deficiencies cited by the Internal Audit Department, which will follow up with the implementation of audit recommendations. For more information: ww.smics.com/download/internalauditcharter.pdf

#### **Compliance Office**

Compliance Office is responsible for monitoring and enforcing (1) the professional ethics and business conduct of the company and its employees in accordance with the company's business practices and Code of ethics; (2) the company's anti-fraud policy is applied to investigate any fraud and report to the audit committee; (3) the listing rules of Hong Kong Stock Exchange and New York Stock Exchange, and other appropriate statutory rules and regulations; and (4) the compliance of insider trading, in accordance with the provisions of the company's insider trading policy.

## **3.2 Information Disclosure**

### 3.2.1 Disclosure Policy

The Disclosure Committee of the Company designs and implements the company's disclosure policy and procedures, and oversees the company's compliance with its disclosure obligations on a timely basis. Disclosure policy applies to all employees and consultants of SMIC, its board of directors, and those authorized to speak on its behalf. It covers public disclosure on behalf of SMIC in all documents and statements no matter how they are communicated. This mechanism helps to ensure the accuracy of our reporting.

#### 3.2.2 Shareholder Communication Policy

As SMIC belongs to its shareholders, they must be informed of all major developments affecting the company. We communicate with our shareholders regularly through a range of publications and online platforms, and also by Annual General Meetings (AGMs), Extraordinary General Meetings (EGMs), Annual Reports and Interim Reports released in the New York and Hong Kong stock exchanges, as well as presentations and news releases submitted to the aforesaid exchanges, etc. In addition, SMIC's investor relations (IR) department arranges hundreds of face-to-face and over-the-phone meetings with investors to present the latest updates, strategies, and direction. In 2016, SMIC's IR program was voted as Top 3 Best IR Program among Asian semiconductor companies (Japanese companies excluded), as published by Institutional Investor. We aim to provide timely, accurate, and fair disclosure of information to our stakeholders. We also provide potential investors and stakeholders with easy access to company information online, which is mostly accessible through the website of SMIC and stock exchanges. For more information, see www.smics.com/attachment/20120326006.pdf.

## **3.3 Business Conduct and Ethics**

Our Code of Business Conduct and Ethics (Ethics Code) ensure our legal compliance as well as our integrity, professionalism, and accountability. Our Ethics Code is committed to anti-fraud, compliance with public interest, corporate opportunities, protection of intellectual property, transactions in SMIC securities, use of SMIC assets, public disclosure, record keeping, anti-bribery, relationships with customers, vendors, investors and other parties, and much more. For more information, see www.smics.com/download/ethic\_codebusiness.pdf.

Our Ethics Code applies to all employees, directors, contractors, consultants, and agents, and requires them to comply with all company policies and applicable laws, and to report any violations under confidential procedures. It is enforced by our compliance office, as supervised by our chief compliance officer and our board's audit committee. Violations, depending on their severity, result in warnings, discipline, termination, or prosecution.

All of our employees observe the Ethics Code and certify that they will comply with its policies and any additional policies or laws specific to their jobs. They also receive regular mandatory training and test on ethics, and messages about it from our compliance office, legal department, and outside counsels. Some key areas covered by our Ethics Code are mentioned in the following sections.

#### 3.3.1 Insider Trading Policy

In accordance with U.S. and Hong Kong securities law, the insiders of the Company are prohibited from abusing company information for personal gain or from dealing in company stock during lock-up periods. Our Ethics Code outlines the key requirements of company policy and securities law, these requirements are enforced by our compliance office.

#### 3.3.2 Anti-Fraud Policy

Our Ethics Code demands honest business dealings. All our employees enjoy positions of trust, requiring their ethical use of customers, third parties, and company assets including physical and intellectual properties (IPs). The actions of each employee reflect on the company as a whole. Accordingly, fraud by any employee can not be tolerated. Any employee learning of such activities must report the matter to the Compliance Office or the Audit Committee (if applicable). For more information, see www.smics.com/download/anti\_policy.pdf.

#### 3.3.3 Anti-Bribery Policy

Regardless of rank or nationality, our employees, agents, and contractors must comply with the U.S. Foreign Corrupt Practices Act (FCPA), the Hong Kong Prevention of Bribery Ordinance, and other applicable anti-bribery laws. Our rules for giving and receiving gifts are detailed in our Ethics Code and our separate Anti-Corruption Policy prepared by external legal counsel. All these rules are explained and enforced by our Compliance Office.

SMIC has formulated the anti-corruption policy as well as the procedures and guidelines thereof, requiring all senior officers, Board members, employees, agents and contractors to implement the policy.

SMIC opens reporting channels, encourage any employees, investors, contractors, customers, suppliers, business partners or other people through confidential mailbox Code@smics.com or hotline +86-21-50801703 to report any suspected violation of law or policy to SMIC's Compliance office, in order to prevent dangerous or illegal acts on the existence of commercial interests.

All information relating to informants will be strictly confidential. The company guarantees that informants will not be subjected to any form of retaliation or adverse treatment.

After receiving the report information, the Compliance Officer has a reasonable judgment to determine whether there is a reasonable basis for conducting a formal investigation. If there is a reasonable basis for launching a formal investigation, the Compliance Officer will conduct a formal investigation in accordance with the process. The Compliance Officer reports any serious breaches of accounting, legal, regulatory or law enforcement requirements to the Audit Committee and the Chairman of the Board, and ensures that the Company has taken appropriate corrective action. Any director, executive and employee who is found to have violated any of the laws, regulations or Company policy will subject to disciplinary actions in accordance with Company policy. The Compliance Officer establishes a record of all reported correspondence, to trace the incoming, investigation and findings of the case. The Company regularly reviews the effectiveness of the reporting process to ensure its effective implementation.

In 2016, there is no lawsuit of corruption against SMIC or its employees.

#### 3.3.4 Training and Report

To promote awareness, we have placed our policies on our company intranet, and require all employees to be trained on our core values and compliance policies. Any SMIC employee, investor, contractor, customer, supplier, business partner, or other person may report any suspected violation of law or policy to SMIC. Such reports may be made directly to the Compliance Office via Code@smics.com. All information concerning the informer is kept in strict confidence.

## 3.4 Compliance Mechanism

SMIC applies the Internal Compliance Program (ICP) to ensure that we abide by international laws and treaties governing export controls on high technology products. The United States and many other countries have joined the International Export Control Regimes. Suppliers and customers operating in these countries typically need an export license before shipping controlled items (equipment, parts, materials, software, or technology) to China. We and our relevant suppliers and customers comply strictly with the restrictions and conditions in the licenses.

The ICP is codified in our ICP Manual, consisting of policies and procedures that ensure compliance with all legal requirements. The ICP Manual includes ten elements as follows:

- (1) export compliance policy statement;
- (2) Responsible Personnel and Functions
- (3) list of denied parties;
- (4) screening procedures
- (5) technology control plan;
- (6) controlled equipment, parts, and materials management;
- (7) compliance/audit review program
- (8) employee training program;
- (9) recordkeeping:
- (10) non-compliance notification procedures.

To keep the entire staff well-informed of our ICP obligations, the CEO issues an export compliance policy statement that must be acknowledged and signed by all staff. Our ICP team conducts regular trainings and maintains the ICP web page on our company intranet. Meanwhile, our ICP compliance is verified in regular audits by vendors and government officials.

## 3.5 Management System

We use industry standards as guidance to build our integral and sound internal management systems, and to meet our customers' requirements. The process ensures we conduct our business by the best practices available and be prepared on the high-tech supply chain to meet emerging demands. Following audits by internationally recognized firms, we have been certified as compliant in important areas by the British Standards Institution (BSI) and other organizations aligned with the International Organization for Standard-ization (ISO). Our key certifications are as follows:

#### 3.5.1 ISO 9001 Quality Management System

Reflecting our quality control standards, we have held ISO 9001 certification for Quality Management System for all our sites since 2002. With ISO 9001 as guidance, we have developed reliable systems of check, evaluation, and communication with our customers to ensure quality procedures for design, development, production, and service. See www.smics.com/img/iso9001.pdf for our certificates.

#### 3.5.2 TL 9000 Supply Chain Directive

Similar to but further on the ISO 9001 certification above, the TL 9000 certification focuses on Quality Management System for customers of the telecommunications industry. It emphasizes the integrity of supply chain directive. Since 2005, our sites in Shanghai, Beijing and Tianjin have successively passed TL 9000 certification. See www.smics.com/img/tl9000.pdf for our certificates.

#### 3.5.3 ISO/TS 16949 Defect Prevention

Based on the ISO 9001 certification, TS 16949 certifies Quality Management System for customers in the automotive industry. The purpose of TS 16949 is to eliminate defects from one link to the next in the automotive supply chain, providing quality assurance for the final customers. Since 2004, SMIC has been certified in Shanghai, Beijing, Tianjin and Shenzhen. See www.smics.com/img/ts16949.pdf for our certificates.

## 3.5.4 OHSAS 18001 Occupational Health and Safety

Since 2003, our certification in OHSAS 18001 has guided us to build our health and safety management system, with which we strive to provide employees with a safer and healthier workplace, and secure the company assets. See http://www.smics.com/download/OHSAS18001\_1.pdf for our certificates.

#### 3.5.5 ISO 14001 Environmental Management System

We obtained our certificate for ISO 14001 Environmental Management System in 2002. Using this international standard as reference, we set up our environmental management system, with which we implement measures to reduce pollutant emissions, and reduce energy and resource consumption. See http://www.smics.com/download/ISO14001\_1.pdf for our certificates.

#### 3.5.6 ISO14064 Greenhouse Gas Measurement

Recognizing the severe issue of global climate change, the Company has taken appropriate measures. In June 2010, our Shanghai site became the first semiconductor foundry in Mainland China to obtain the ISO 14064 verification. Other sites followed to set up this management system shortly thereafter. We

measure our greenhouse gas emissions, set annual emission-reduction target, and meanwhile, we conform to the standard by implementing energy-saving measures to reduce GHG emissions. See www.smics.com/download/ISO14064.pdf for our certificates.

# 3.5.7 Green Product Management System and QC 080000 Hazardous Substance Management

In 2006, our Shanghai site became the first foundry in Mainland China to receive the Green Product Management System (GPMS) certification. Since December 2006, other sites have received the QC 080000 certification successively, assuring our compliance with the Directive on the Restriction of the Use of Certain Hazardous Substances (RoHS) in Electrical and Electronic Equipment. See www.smics.com/download/QC080000.pdf for our certificates.

#### 3.5.8 ISO 27001 Information Security Management System

We prioritize the security of customer information. Guided by the ISO 27001 Information Security Management System, we set up our comprehensive information security management system, which comprises of three basic components: employee management, information technology application, rules and policies. See www.smics.com/img/iso27001.pdf for our certificates.





# **Customer Service**

rvice Strategy	33
rvice System	33
ity and Reliability Control	35
ormation Protection	35
aluation and Complaints	36
tisfaction	36

## 4.1 Customer Service Strategy

SMIC is committed to implement a number of strategies to provide customers with extraordinary services and achieve shared successes, so as to:

• help customers shorten the time to market by providing quality products and services.

· continue to invest and provide value-added innovation with differentiated maturity and advanced technology.

• continue to act as a gateway to help customers achieve success in Chinese market, to establish and enhance strategic partnership with the customers and various participants in the semiconductor and electronic ecosystem, thus to enter and penetrate into Chinese and global market.

SMIC has an appropriate executive management team to lead the company forward, and to fulfill its commitment to customer trust with extraordinary quality. With excellence in manufacturing, technology and service, SMIC is strongly confident in fulfilling the customer service strategy. Depending on excellent quality, it continues to strive for customer success by rendering high quality and competitive services and technologies. SMIC and its partners and customers jointly contribute to create inspiration, which then lead to future development and innovation.



**Commitments for Excellence** 

Servicing Customers with

## 4.2 Customer Service System

SMIC boasts professional sales and customer engineering teams distributed in Shanghai, Beijing, Tianjin, Shenzhen, Hsinchu (Taiwan), San Jose (California, US), Milan (Italy, Europe), Tokyo (Japan), and many other areas around the world. They provide customer services on a global scale. The teams collect customer needs, coordinate resources among internal R&D, manufacturing and service sectors, and provide one-stop efficient

services to customers from design support, mask making, and product manufacturing to back-end packaging and testing. Meanwhile, SMIC also provides customers with tailor-made products and services to help them enhance market competitiveness, and to, as a result, achieve common development of the company and its customers.



To acquaint customers with SMIC, and get them duly informed of the latest information of SMIC's technology platform, in 2016, the Company held a series of event - executive summits, advanced technology workshops and technology symposiums specifically - successively in Shanghai, Beijing, Shenzhen, Hsinchu, Tokyo, Santa Clara of California, etc., to show the technical advantages of SMIC, so that customers could gain a more handy and in-depth understanding on SMIC. In addition, the Company also actively participate in major international and domestic exhibitions. SMIC can be spotted on SEMICON, GSA, IC China and other large exhibitions.

In addition to promote exchange and information sharing with customers, SMIC > also provides "SMIC-NOW" online services that allow customers to access technology platform documents, design service information, new product introduction requirements and procedures, and to even proceed directly the new product Tape-out process. Moreover, customers have access to real-time report that can immediately show the information on their masks and products, every step from off-production-line to discharge and delivery. Relevant quality reports are also available.

To further solve customer issues and respond to customer needs in a timely manner. SMIC opens a global 24-hour hotline to offer full instant replies to customers, and to act promptly on customers' urgent needs with quick feedback.

The link to SMIC NOW - customer online service platform and the 24-hour hotline service number is available on SMIC's official website.

Customers can log in the SMIC NOW online system via the following interface, and proceed information query and new product introduction.

SMIC NOW Online System provides customers with product services, design services, technical platform documents and reports..



Sutary Se Sutaria Series in	ng Corporate ability Index. Index at 19.401 r		SMIC 10.2017 Contents No. 10.00	Webcast termp to dif "get han all
ana 1994 Bino (P An House Notaria An Managemini Casan A Rada Ne Anana A Rada Ne Anana Ne Anana Ne Anana Ne Anana Ne Anana Ne	Austry Michael - Foody Michael Terrain - Jahan Terrain - Fallen Terrain - Fallen Terrain - Fallen Terrain - Fallen Terrain - Jahn Michael - Jahn Micha	Hosp Saget Hosp Saget Hose - Date - Sales - Hose -	Constant Partners     Constant (Internation)     Constant (Internation)	Ontine Services Services Search Press Contact us
ten farm ten farm free fature	Farent - Carent Decreen - Carent Decreen	Ranta Generation Tempe Victoria Victoria		H four furbilist funger fontion (HR), AT EXEMP



Man toplate	Additional designment of		ALL LOCAL DISCOURSES IN
We have a set of	Contraction in the local distance of the loc		
	and the state of t	Contract Stand	
P. 27	1000 No. 01 You Wat		the second
_	The second second second		the feet from the restore
		And Andrew Agent	
100	1000 million (1000 million)	The second	and the second second
1.00	Company on the	1 , matters trains inser-	
Incase Resident	and back on	control based	
_	and the second state of the	- AND IN THE PARTY OF THE	
	And they have	Banksinghaman	
-	Art Control (March)	Contract Sector	
and the second second	and the second second	r inclusion	Apple Course Late
		Report of the Party State	
		The second secon	

## 4.3 Product Quality and Reliability Control

From R&D to mass production throughout the entire service process of product manufacturing, SMIC adopts comprehensive quality and control system as we:

\* Use Statistical Process Control (SPC) for performance of manufacturing process, establish strict audit mechanism for product performance, and introduce a record management system (RMS) for production programming, by which all important parameters are under control to effectively guarantee product quality; \* Introduce the concept of "One Mega Fab", i.e., conducting optimized configuration of equipment and process parameters with each plant, in order to perform common standards and requirements for product quality and yield;

\* And establish diversified laboratories and tools to conduct chemical and material analysis, product failure analysis, yield improvement, reliability testing and monitoring, etc.



Legend:

IQC: Incoming Quality Control WLRC: Wafer Level Reliability Control OQA: Outgoing Quality Assurance SPC: Statistical Process Control

SQA: Supplier Quality Assurance

## **4.4 Customer Information Protection**

SMIC attaches great importance to protection of customer information and privacy, as well as intellectual properties. Customer information is under the highest level of information management and control. In accordance with requirements of ISO 27001, the international standard for information security, information security control measures are applied in an all-round manner to ensure the safety of customer information.

For customers' confidential information (such as GDS, etc.), we provide full protection from the following three aspects : (1) Within a secured working environment (2) Full access log with real time monitor and abnormal alert (3) Keep security control continuous effectiveness



## 4.5 Customer Evaluation and Complaints

SMIC has an exclusive system to track and handle customer complaints. All complaints from customers are looked into by relevant department in a timely manner, which shall provide the 8D report within 10 days. As the causes are located, relevant measures are undertaken to prevent similar incidents from happening again. In 2016, we received a total of 15 complaints, all resolved completely.

## 4.6 Customer Satisfaction

SMIC has established a comprehensive customer satisfaction survey mechanism. The quality management team will conduct a customer satisfaction survey semiannually covering a number of topics, including new product development, product quality and reliability, OTD, business service quality, complaint handling and so on.

Upon customer feedback, SMIC will conduct a comprehensive analysis and, following the PDCA continuous improvement principle, undertake effective measures for improvement timely; and meanwhile, feed back to customers with improvement results. In this way, we obtain customers' recognition, and improve customer satisfaction.

According to an analysis of customer satisfaction of the first half of 2016, the demand for production capacity rose as one of the biggest expectations that customers claim from SMIC. The Company made a rapid response to this demand as it resorted to a series of plans on capacity expansion. In the second half of 2016, the satisfaction level for production capacity had significantly improved. In the future, SMIC will continue with its efforts to further meet the needs of the market and customers.

SMIC has established product quality inspection and recall procedures to deal with non-conforming products.

Meanwhile, we apply the QC080000 standard to ensure product safety and health standard meeting regulatory requirements. In 2016, we received no claims for recall of sold product due to health and safety reasons.





# **05** Supply Chain Management

Chain Overview	39
Management Mechanism	39
Minerals Management	41

## 5.1 Supply Chain Overview

The procurement scope of SMIC covers production equipment, production equipment maintenance parts, raw materials, plant facilities, firefighting facilities and projects, general services, etc. Based on the concept of achieving a win-win cooperation with suppliers, the company strives to reduce the risks posed by the supply chain, and guarantee the stability of production and operation and the quality of customer services. Meanwhile, it also actively participates in special homemade equipment and homemade material projects, and attempts to increase the local procurement proportion of equipment and raw materials and indirectly create employment opportunities. The proportion of mainland Chinese suppliers has seen a steady rise, from 9.1% to 12.5%. The proportion of suppliers by region is as follows:



To support the local supply of raw materials, SMIC continuously cooperates with more local raw material suppliers, persistently broadens the assessment of local raw materials categories, and expands local procurement amount and proportion. In 2016, the procurement amount of local raw materials was \$80.43 million, \$11 million more than the amount of 2015 (accounting for 15.95% of the total procurement amount). It contributed its share to the construction of local semiconductor industry.



## 5.2 Supplier Management Mechanism

SMIC has established a sound supplier management system to manage the key links of the supply chain, including provisions about supplier admittance, supplier evaluation and supplier improvement, etc. SMIC embeds CSR spirit into the supply chain management with strict audit, sustained ability construction and sufficient communication. In order to improve the comprehensive quality of suppliers including the occupation morals, transparency and social responsibility, and create more value for themselves and the supplier, SMIC considers and solves problems from the system level, and maintains the supply chain advance, efficiency and reliability.

#### 5.2.1 Supplier admittance

SMIC has established a sound new/alternative supplier admittance assessment system. The departments participating in the assessment include the guality department, the ESH department, the procurement department, the user unit, etc. Assessment is conducted in terms of product quality parameters, supplier' quality management system, supplier's EHS management, supplier's warehousing/logistics/after-sales service management, production & use status, etc. All suppliers have to be assessed, and only after relevant requirements have been met and certain scores have been reached shall a supplier be accepted as a gualified one; ESH maintains a directory of qualified suppliers, in which all contracted firms and manufacturers must be included.

#### 5.2.2 Supplier Assessment and Evaluation

In order to reduce supply chain risks, SMIC has established a sound supplier assessment and evaluation mechanism. It rates contracted

suppliers once every half a year based on indexes like quality index, cost index, delivery & service index, safety and environmental protection index, etc. An improvement plan should be established and followed if the assessment result don't meet related requirement.

In 2016, the audit results were showed as below chart.



■ 60-70scores ■ 70-80scores ■ 80-90scores ■ >90scores

In order to ensure long-term stable business cooperation with suppliers, SMIC conducted a survey on the sustainable operation status of suppliers providing raw materials in the current year, focusing on:

- . Whether they have established a risk assessment system (earthquake, flood, IT failure, terrorist attack, etc.) to regularly determine their risks and to control the high risks
- Whether they have prepared disaster recovery, production transfer and supplier recovery plans and conducted routine drills
- · Whether the business continuity plans are regularly reviewed by their top management
- Whether they have established a pre-notification process for potential supplier interruption
- · Whether they consider their suppliers' business continuity management when making their own procurement decisions

In 2016, all of the more than 40 raw material suppliers in the survey provided satisfactory responses.

#### 5.2.3 Supplier Capability Improvement

SMIC attaches great importance to the common growth with suppliers, especially in-plant contractors. In order to improve the safety construction level of contractors, the ESH department provides construction safety training for all operators. The training mainly explains the knowledge of and requirements on safety construction, the EHS rules and systems of SMIC and the safety tips of eight high-risk operations (i.e., operation with fire, operation at heights, operation with fire system interrupted, risky pipeline cutting operation, special equipment operation, gas detector isolated operation, fire detector isolated operation and confined space operation), shares construction accident cases, and so forth. It not only enhances the functions of supplies, but also reduces the risks faced by the company.

To increase communication and interaction with contractors and promote mutual learning and progress, SMIC has established the contractor communication meeting and an excellent contractor evaluation system. The contractor communication meeting is held every year and excellent

contractors are appraised and elected every year. The contractor communication meeting mainly includes contractor annual construction summary, contractor construction ESH experience sharing, sharing of major contractor accidents, ESH construction safety publicity and guidance and presentation of award to excellent contractor.

In 2016, SMIC elected 12 excellent contractors, summarized the ESH management experience of these excellent contractors and promoted their experience to all contractors, so as to improve the contractor safety management and reduce safety accidents and injuries.



Commendation meeting for ESH excellent contractors

Plant	List of ESH excellent contractors
Shanghai	ASML (Shanghai) Optical Carving Device Technology Co., Ltd.
Shanghai	Shanghai Betone Semiconductor Energy Technologies Inc.
Shanghai	WINMAX Technology (Shanghai) Co., Ltd.
Beijing	Beijing He Rui Mechanical and Electrical Equipment Installation Engineering Co., Ltd.
Beijing	Advanced Micro-Fabrication Equipment (Shanghai) Inc.
Beijing	Edwards Technologies Trading (Shanghai) Co., Ltd.
Tianjin	Shanghai Yi Ming Electrical and mechanical installation engineering Co., Ltd.
Tianjin	Air Products (Tianjin) Co., Ltd.
Tianjin	Lam Research Service (Shanghai) Co., Ltd.
Shenzhen	China Electronics System Enigeering No.2 Construction Co., Ltd.
Shenzhen	MIC-TECH Electronics Engineering Corp.
Shenzhen	Shanghai Ovivo Water technology Co., Ltd.

## **5.3 Conflict Minerals Management**

In the Democratic Republic of Congo and adjoining countries and regions, there are severe human rights and environment problems with the mining of cassiterite, black tungsten, coltan, gold and other rare metals, and most mining activities in these regions are related to armed groups (financed by minerals) involved in conflicts, which resulted in the long-term instability of these regions. These minerals are referred to as "Conflict Minerals" by the media. It's very likely that these metals are extensively applied to information and communications technology products. SMIC strongly opposes the human rights abuses in Central Africa perpetrated by armed groups who are financed by minerals sold into the global supply chain. Therefore, SMIC has developed a robust Conflict Minerals Program, to comply with U.S. law (section 1502 of the Dodd-Frank Act and related SEC regulations), which draws from the framework guidance of the Organisation for Economic Cooperation and Development (OECD) and the tools of the Electronic Industry Citizenship Coalition (EICC) and the Global e-Sustainability Initiative (GeSI). As such, we have a cross-organizational team that has worked to publish our conflict minerals policy on our website, establish a management system monitoring and requiring all relevant suppliers source exclusively from smelters certified as conflict free, engage the relevant suppliers in order to enhance communications and improve compliance, and issue our own report to the SEC.

The key to conflict minerals management lies in the effective management of suppliers to ensure that various links in the supply chain all meet the requirements on conflict minerals management. In 2016, SMIC established its internal management document for conflict minerals management, and completed a conflict minerals usage survey for all related suppliers. The survey used the Conflict Minerals Reporting Template (CMRT) developed by EICC and GeSI. The template contains the supply chain information regarding the mineral country of origin, the smelters and refiners utilized and so forth, facilitates the transfer of information, complies with laws and regulations, and also facilitates the identification of new smelters and refiners to potentially undergo an audit via the CFSI's Conflict-Free Smelter Program

In 2016, SMIC requested the suppliers of conflict minerals with 4 aspects. All suppliers completed Conflict Minerals Reporting Survey, and provided the corresponding evidences to confirm that they had met the requirements on conflict minerals management. Meanwhile, as required by customers, SMIC sent back about 100 Conflict Minerals Reports to prove that we had conducted effective conflict minerals management and met the requirements on conflict minerals management.

------



Requirement

Documents Requirement

All suppliers and their direct suppliers must undertake due diligence per the OECD 5-step framework:

1)Establish strong conflict mineral policy and management systems: Adopt and clearly communicate a "DRC Conflict-Free" supply chain policy; Implement "DRC Conflict-Free" supply chain due diligence measures; and Require their direct suppliers to adopt similar policy and due diligence.

2)Identify and assess risk in the supply chair

Reporting Template ("Template") and require their direct suppliers to do the same; Ensure the use of smelters that are on the Conflict-Free Smelter Program's (CFS) Compliant Smelter list; and Verify that the information provided in the Template is complete and accurate.

3)Develop a good strategy to resolve identified risk:

Communication of risk to senior management; Mitigation procedures for identified supplier(s); and qualification of alternative source(s) if mitigation fails.

4)Arrange audits of their supply chain due diligence.

parties involved in the upply chain from minerals to delivery o the material containin

A completed CFSI Conflict Minerals

3)Supplier's Company Policy Statement A cop of their Conflict Mineral policy statement, as provided to their suppliers;

materials provided to SMIC are "DRC

5)Report on their supply chain due diligence.





# as promptly as possible, any identified they are taking to



Audit Requirements

Suppliers must, after effective communica tion, allow SMIC to verify their erify their compliance with thes allowing SMIC to allowing SMIC to review their Conflic Minerals due diligence measures (at least annually or more ofen if required hiore ofen if n by law).



# **Environmental Protection**

ntal Protection Policy	45
nt Management	45
e Gas Management	45
nagement	47
Substance Control	49
ource Management	50
n Prevention and Control	52
agement	52
of Environmental Awareness	52

## **6.1 Environmental Protection** Policy

The company established its ISO 14001 environmental system in 2002. The company continuously improves its management system, optimizes and revises its ESH management policy, and has established the following latest ESH policy:



To realize the environmental protection goal of ESH policies and ensure that SMIC complies with all applicable environmental laws and regulations, the company takes the following environmental protection measures: · Lay out and implement environment protection measures, drive energy

- conservation and emission reduction projects
- Classify, collect and recycle wastes
- · Supervise and manage movements, safe treatment of wastes and qualification affirmation of manufacturers
- Control the content of hazardous substances in the products
- · Regularly conduct environment protection monitoring and carbon emission examination, and disclose results

## **6.2 Environment Management**

Guided by related environment management systems and standards, SMIC systematically and normatively introduces environment into the whole process of production and operation through planning, implementing and operating its environment management patterns.

### 6.2.1 Management System

SMIC strictly abides by relevant domestic laws and regulations, and follows internationally recognized standards. It has established a complete internal environment management system, and founded a special environment management organization as required by the system, with clear division of authority and responsibility and collaborative operation between various intra-organization units. The effectiveness of the management system is audited on an annual basis. As of the end of 2016, all of our existing sites had received Environment Management System (ISO 14001) and Hazardous Substance Process Management System (QC 080000) certifications, and all the newly-built sites will receive these

management system certifications within one year after being put into volume production

#### 6.2.2 Clean Production

Clean production is a method to minimize or even eliminate the impact brought by the product to humans and the environment. It is possible to realize green production in many ways, including reduction of pollution sources, increased the utilization ratio of resources, and reduction or elimination of contamination in various links from production, maintenance and product use

According to the requirements of local governments, SMIC conducts clean production audit once every five years, and implements its clean production improvement scheme according to the audit opinions of experts. As of the end of 2016, it has completed a cumulative total of 77 clean production improvement schemes, and invested in the amount of above RMB 40 million.

## 6.3 Greenhouse Gas Management

The emission of greenhouse gases significantly increases their concentration in the atmosphere, enhances the greenhouse effect, and incurs climate change. Climate change exerts severe influence on global ecological environment, human life & health, economics and so forth, and is receiving close attention from the UN, the governments of various countries, the society and the business world.

### 6.3.1 Climate Change Policy

SMIC actively shoulders its responsibility towards alleviating climate change, and conducts business with the wellbeing of our environment, our community and our next generation in mind. Concerned about global climate change, SMIC remains committed to save resources, reduce disaster losses caused by extreme weather, slow down and reverse the effect of climate change to achieve sustainable development and leave behind a cleaner and more stable environment. To achieve these objectives, SMIC commits to:

- 1. Decrease Greenhouse Gases emissions;
- 2. Reduce product energy consumption;
- 3. Lower product water consumption;
- 4. Pursue green production and energy saving products; and

5. Enhance the ability to prevent, respond, and recover during adverse weather conditions.



#### 6.3.2 Greenhouse Gas Verification

SMIC has established greenhouse gas verification system according to ISO 14064-1 international standard. It carries out regular greenhouse gas emissions accounting for each plant of the company under production and operation annually in order to obtain the information of greenhouse gas emission in the company, and also implements emission reduction measures as planned.

#### Status of direct greenhouse gas emission

Sources of direct greenhouse gas emission: emission from the combustion of fossil fuels, such as gasoline, diesel and natural gas, PFC gas emission in the CVD and Etch production processes, emission from the combustion of organic gases, and other fugitive emissions from refrigerant, wastewater treatment systems and pure water systems, etc.



#### Status of indirect greenhouse gas emission

Sources of indirect greenhouse gas emission: purchased electricity, steam, heat and other energies.



Indirect GHG emission (ton CO2e)

In 2016, the total amount of greenhouse gas emissions added a new plant-Shenzhen. Therefore, the total amount was increased of 21.4% over last year, reaching 1,498,734 tons of greenhouse gases. But emission per each of 8 inch wafer equivalent mask was essentially flat with last year, that is the same of the emission intensity.

--- Direct GHG emission intensity (ton CO2e/8 inch equivalent layer)

---- Indirect GHG emission intensity (ton CO2e/8 inch equivalent layer)

#### PFC greenhouse gas emission

SMIC actively abides by the agreement about voluntary reduction of PFC greenhouse gas emission established by WSC, and endeavors to implement the Best practice technologies advocated by WSC and reduce PFC greenhouse gas emission.



Information of CO<sup>2</sup> from PFC emission in 2016 is shown in the following gure:

## 6.4 Energy Management

SMIC actively responds to our country's call of energy conservation and emission reduction, establishes its energy management organization to continuously implement energy conservation and emission reduction projects, and has realized both economic benefits and environmental benefits.

#### 6.4.1 Energy Management Mechanism

SMIC promotes energy management by the Energy Conservation Committee established at the beginning of 2014. The COO chairs the Energy Conservation Committee, and presides over energy conservation-related work. The members of the committee include the plant facility department, the equipment department, the production department, the general services department, the production planning department, the financial department, the EHS department and other relevant departments of each plant. We have built a complete energy management system, and implemented three levels of energy management network and the energy management post responsibility system. We have also set up a full-time energy management agency and a full-time management person to engage in energy management and guarantee the implementation of energy management in terms of institutional and organizational construction. SMIC's Beijing Plant established an energy conservation management system pursuant to the national standard GB/T23331-2012 in a bit to further strengthen energy management.

The energy conservation committee holds regular meetings monthly and sets fixed topics for discussion. Each meeting summarizes the execution conditions of the energy conservation plan in the past month, analyzes varying or abnormal trend of energy consumption, and disseminates good energy conversation schemes to different plants through the meeting, to realize mutual learning. The Committee also adopts a new way to cooperate with vendors through management of energy contracts and shares the benefits resulting from energy conservation to actualize win-win modes.



#### 6.4.2 Energy Consumption Status

Compared with 2015, the year of 2016 saw an increasing trend of the total energy consumption, but the energy consumption intensity per unit output presented a steadily declining trend.





Total Steam Consumption of SMIC (Unit: Kiloton)





\* The data in above chart without SJSemi and LFoundry

#### 6.4.3 Main Energy Saving Projects in 2016

Energy Saving Projects in 2016					
Plant	Project Name	Brief Description of Project	Energy-saving Performance Electric Steam Energy (kWh) (ton)		
Shanghai Site	Lighting System Energy Saving Renovation Project	Replace 1338 36W ordinary fluorescent lamps with 12W LED lamps	138,724	/	
Shanghai Site	Chiller Cooling Water Heat Recovery System Energy Saving Renovation Project	Increase plate heat exchanger and recycle residual heat of the back cooling water of chiller units	/	23,195	
Shanghai Site	Ultra Pure Water System Energy Saving Renovation Project	Control the pure water system by VFD instead of MCC control cabinet	265,500	1	
Shanghai Site	Street Lighting System Energy Saving Renovation Project	Change 226 street lamps from 200W - 250W metal halide lamps to 30W LED lamps	196,891	1	
Shanghai Site	YE Machine Exhaust Reconstruction Project	Discharge the heat generated by the machine cooling fan through GEX exhaust pipe system	64,012	1	
Shanghai Site	MAU Filtration System Improvement Project	Change the active carbon filter from cylinder model into box model, to reduce the operation frequency of MAU fan	40,735		
Beijing Site	MAU System Optimization Energy Saving Project	Extend MAU fresh air tube to the part under the grating plate in Sub Fab area, so that fresh air and return air are mixed more evenly, to lower MAU supply air temperature	464,200	3,108	
Beijing Site	Chiller EMC Energy Saving Project	Use EMC system to enable devices designed for the chiller system to work at the optimum efficiency point	4,816,033	1	
Beijing Site	Chiller Heat Recovery Energy Saving Renovation Project	Recycle the heat generated by the compressor of the chiller that produced chilled water	/	2,884	
Beijing Site	Free Cooling Energy Saving Project	Through free cooling system, supply chilled water for each system in winters and transition seasons	3,607,200	/	
LFoundry	Parking Lot Lighting System Energy Saving Renovation Project	Change the lighting system of 30000-m2 parking lot into LED lamps	140,000	/	
LFoundry	Process Water Free Cooling System Energy Saving Renovation Project	Use Fab outside air temperature to cool the process water, reduce chilled water consumption	3,841,000	1	
LFoundry	Air Compression System Optimization Energy Saving Renovation Project	Replace 3 old air compressors with 2 new high efficiency compressors, while optimize operating pressure and eliminate pipeline leaks	650,000	/	
SJSemi	MAU System Energy Saving Improvement Project	Reduce the steam supply pressure in the steam humidification section of MAU system, optimize the linkage between supply and demand, and reduce MAU outlet air temperature	1	2,532	
		Total	14,224,295	31,718	





#### Case I: Energy conservation transformation project for

chiller cooling water's heat recovery system in Shanghai Plant In the winter and transitional seasons (tap water having a mean temperature of about 10°C). Shanghai Plant uses the heat of the refrigerating unit's cooling return water (with a mean temperature of 28°C) to heat the UPW raw water (tap water) from 10°C to 22°C via the plate-type heat exchanger. This not only reduces the steam formerly consumed by the central hot water system for heat exchange, but also reduces the abnormal fluctuations of the steam supply system caused by the frequent startups and shutdowns of the ultra-purified water (UPW) system. Meanwhile, the temperature of the cooling tower's return water, after its heat is absorbed by the UPW raw water, declines from 28°C to 16°C, which can improve the operation efficiency of the refrigerating unit and reduce its power consumption in the refrigerating process. The transformed system can save steam by 23,195t each year.



#### Case II: EMC energy conservation project for the chiller system in Beijing Plant

The EMC systemRelying on the EMC system, Beijing Plant optimizes the operation of various equipment of the refrigeration system, automatically controls the addition and subtraction of chillers, institutes remote control and local frequency control via the collection of various items of data and optimization software control. The system enables the equipment to operate at the best efficiency point and achieve the goal of energy conservation in operation while meeting the operating requirements. From February to December, 2016, it saves power by a cumulative total of 4.816.033kWh.



#### Case III: Free cooling energy conservation project in Beiiing Plant

In the winter and transitional seasons, free cooling is used by Beijing Plant to supply cooling water to various systems (natural cooling procedure is followed to chill the water, and the chiller is shut down to save power). After the implementation of this project, power was saved by 3,607,200kWh in 2016.



#### Case IV: Energy conservation transformation project for LFoundry parking lot lighting system

The lighting system of the 30,000m<sup>2</sup> parking lot was transformed through the adoption of LED lamps. The transformed lighting system can save energy by 60%, and also improve the lighting effect and reduce light pollution.



Before reformation After reformation

## 6.5 Hazardous Substance Control

SMIC conducts the control of hazardous substances in the products according to QC 080000 hazardous substance control system to control the hazardous materials throughout the whole process. Through our strict controls, our products reach the green product level and meet domestic and international standards for controlling hazardous substances, such as China's Measures for the Administration of the Restricted Use of the Hazardous Substances Contained in Electrical and Electronic Products, the European Union's RoHS/REACH directive and Sony's GP customer requirements.

Source control: SMIC promotes green vendor evaluation systems to control hazardous substances from the sources. We choose suppliers that meet green vendor evaluation standards, we regularly perform documentation and on-site verification against suppliers, and we demand our raw-material suppliers to regularly deliver hazardous-substances-free statements and provide hazardous-substance-free test reports for high-risk materials.

Process control: SMIC strictly executes internal production process controls, conducts isolation management on used equipment, trains operating personnel and prevents pollution by foreign hazardous substance in the production process.

Product testing: We rigorously control hazardous substances in the products, and annually conduct hazardous substance tests on the products to be made, thereby verifying that the contents of hazardous materials are controlled within allowable ranges in the products.

## 6.6 Water Resource Management

SMIC's plants are scattered all over the world, and there are differences in the water resources available in different regions. We adjust measures to local conditions for the purposes of implementing water resources management and saving water resources.

#### 6.6.1 Water Consumption Status

Our company manages water resources to save water consumption, increase water resources usage efficiency and reduce waste water discharge. See water consumption data of the company in 2016 in the following table.



### 6.6.2 Main Water Saving Projects in 2016

	Main Energy Saving Projects in 2016					
Plant	Project Name	Brief Description of Project	Municipal Water Saved (tons)			
Shanghai Site	BWW Waste Water Recycling Project	Collect SF and AC backwashing water of UPW system, and reuse it for the ultra pure water system after a series of processing	120,450			
Shanghai Site	Grinding Wastewater and Pure Water System Project for Flush Water Recycling	Collect flush water from grinding water and pure water system, and reuse it for the pure water system after a series of processing	107,766			
Beijing Site	Flush Water Replacement Project with Reclaimed Water for Filter Press Blanket	Replace tap water with reclaimed water to clean the filter press blanket of the wastewater system	25,550			
Beijing Site	Tap Water Replacement Project with Reclaimed Water for UPW System	Replace tap water with reclaimed water as the raw water for UPW system	373,751			
Beijing Site	Local Scrubber Discharged Water Recycling Project for Water Saving	Collect discharged water from the local processing system and reuse it for the local processing system and the central wash system after a series of processing	260,191			
Tianjin Site	Acidic Wastewater Reuse Project for Water Saving	Collect acidic wastewater and reuse it as raw water for UPW system or reuse it for the local processing system and the central wash system after a series ofprocessing	178,864			
LFoundry	Production Machine Wastewater Reuse Project	Collect BSI production machine wastewater and reuse it to replace tap water after a series of processing	30,000			
Total						



#### Case I: grinding wastewater & purified water system flushing water recycling project

It intensively collects grinding wastewater, uses a wedge filter for SS removal from large particles(>100µm), and then employs UF for treatment until meeting RO inlet water quality standard; BWW RO is further introduced to remove salts and so forth, so that the product water can meet the standard on pretreated water for reuse in the purified water system.

It also intensively collects the backwashing water from MMF and AC, the flushing water from 2B, R2B and SA/SC. It first uses a wedge filter for SS removal from large particles (>100µm), and then employs UF for pretreatment to remove SS, organics and so forth; finally RO is further introduced to remove salts and so forth, so that the product water can meet the standard on pretreated water for reuse in the purified water system.



#### Project achievements:

1. Annual reduction of wastewater discharge by 150,128m<sup>3</sup> (consisting of 34,350m<sup>3</sup> grinding wastewater and 115,778m<sup>3</sup> backwashing and flushing water) 2. Annual conservation of tap water by 107,766m<sup>3</sup>

#### Case II: Local Scrubber discharged water recycling &

#### water saving project

The water discharged by Local Scrubber machine is collected and treated by MMF, ACF and 2B, and the treated effluent is used on Local scrubber and Central Scrubber to reduce the consumption of tap water.



Project achievements:

- 1. Reduction of tap water consumption by 260,191m<sup>3</sup>
- 2. A water recycling rate of 78% by B2 Plant in 2016

#### Case III: Acidic wastewater recycling & water saving project

The collected acidic wastewater is first regulated via the neutralization system, and then receives aeration treatment by the aerobic tank to further homogenize and increase the concentration of dissolved oxygen in the wastewater; after that, it overflows into the Membrane Bio-Reactor System (MBRS), and the product water filtered under negative pressure through continuous aeration and MBR membrane is led into the raw water tank of the downstream system; later the product water receives process treatment by activated carbon, softening, UV, RO and so forth until meeting the index requirements on the raw water of the UPW system.



#### Project achievements:

1. A water recycling rate of 85% by Tianjin Plant in 2016 2. Reduction of tap water consumption by 178,864m<sup>3</sup> 3. Increased stabilities of UPW system and secondary users' operation because the quality of reclaimed water is entirely superior to that of tap water 4. Saving of natural gas used for tap water preheating by about 124,694m<sup>3</sup> in the winter of 2016

#### 6.6.3 Water Pollution Prevention and Control

SMIC has built multiple sets of wastewater treatment facilities for the treatment of production and domestic wastewater according to the specific properties of wastewater, thus ensuring that the wastewater discharged meets the national or local standards. Meanwhile, our company strictly follows the wastewater discharge monitoring requirements on all wastewater discharge according to the standards set by the national and local governments. Detailed environmental monitoring data can be seen in the company's official website: http://www.smics.com/chn/about/esh.php.



## 6.7 Air Pollution Prevention and Control

SMIC focuses on air quality in the region, and attaches great importance to the processing of air pollutants, so that all the exhaust emissions meet the national or local standards

SMIC waste gas treatment facilities are divided into two levels, that is, first, at the machine, and second at the central processing end. At the first level, production machine exhausts are processed through a local processing system, and after reaching a certain standard they can be classified into the gas collecting main lines. The waste gas collecting main lines are divided into general, acid, alkali, and organic. Acidic and alkaline waste gases are sent through their main lines, respectively, into the acidic central washing tower and the alkaline washing tower. Organic waste gas is sent into the zeolite runner system combustion process. After the central system treatments, waste gases meet the state regulation requirements and are



## 6.8 Waste Management

SMIC has established a complete waste management system, and strictly com with the laws and regulations of the state on waste management. The wastes produced by the production workshop are subdivided into acidic, alkaline, toxic oxidizable, spontaneously combustible and domestic waste categories distingu by recycling bins of different colors. All the wastes are classified into recycling categories, and transferred to a centralized location for temporary storage to b recycled by qualified vendors. The waste liquids produced by the workshop are transferred through pipelines into temporary storage tanks, and are to be recycled qualified vendors. Strict management has been instituted for our waste vendor corresponding qualification requirements and minimum assessment scores. Du operation, SMIC's ESH will conduct on-site audit or spy audit. Hazardous wast handlings are in strict accordance with the requirements of the regulations to manage the waste transfer. The annual production of various types of wastes in 2016 is as follows:

## 6.9 Promotion of Environmental Awareness

In 2016, the company organized a series of environmental awareness promotion activities, covering posters, all user email, publicity on the company webpage, holding of special activities, etc.

discharged into the atmosphere. External institutions are entrusted by us to regularly monitor emissions and ensure that test results meet the national requirements. For specific monitoring data, please see the company's released information: http://www.smics.com/chn/about/esh.php.

Data Name	
Total emission of exhaust gas (10,000 cubic meters)	4,161,745
Emissions of nitrogen oxides (ton)	189
Emissions of sulfur dioxide (ton)	13
Emissions of volatile organic solvents (ton)	140

nplies	60,000	Amor waste	unt of produ e (ton)	uction	Amount waste (t	of hazardous	S
c, uished	50,000 - 40,000 -	Volur water	ne of sludg r treatment	e from (ton)	Amount (ton)	of life waste	
e	30,000 -						
cled by rs with	20,000 -	_					
uring te	10,000 -						
	0	2011	2012	2013	2014	2015	201



"World Water Day" appealed to



\* On March 22. the publicity of \* On April 22, the publicity of "World Earth Day" all employees to save water. appealed to all employees to practice low-carbon



\* On Sentember 22 the "Car Free Day" was launched to promote green transportation Reduce greenhouse gases and lives and conserve energy. harmful emissions from automobiles



# Caring for Employees

Overview	55
ing of Rights and Interests	55
d Safety	56
velopment	58
Life	61

We always believe that it is essential to provide talents with a macroscopic vision and a broad stage so that they are able to realize their dreams, enjoy the pleasure in their work and life as well as create a better future for us. We ensure that our employees are provided with fair treatment and opportunities for self-improvement, and in good health. By adhering to the people-oriented principle, we are committed to promote technology innovation, corporate progress, economic and social development.

## 7.1 Employee Overview

Founded in 2000, SMIC has attracted ambitious people who want to make a difference in our industry and world. Our employees come from around the globe not only to apply their skills in advanced technologies, but also to bring some values to our business and communities. It is our employees and their families of different types and from different regions who have inspired and led our harmonious corporate citizenship based on mutual understanding and respect, and who have contributed to the connection and communication with our global base of customers, suppliers and investors.

We have more than 2,000 foreign employees from 25 countries and regions overseas. In addition, it has always been our policy to embrace the disabled, and we accommodate their needs wherever possible.

In 2016, SMIC recruited a total of 6,138 new employees. As of the end of 2016, the total number of employees had reached 17,967, including 7,835 female employees and 10,132 male employees; our female supervisors had accounted for 25% of our management staff.



# 7.2 Safeguarding of Rights and Interests

Safeguarding the rights and interests of our employees as required by relevant laws and regulations constitutes the minimum standard commitment fulfillment by SMIC. We also offer other rights and interests to our employees according to our development strategies, and aim to achieve common development and common benefits with them.

#### 7.2.1 Recruitment Policy

In the recruitment process, SMIC upholds the principles of openness, fairness, impartiality, selective admission and anti-discrimination, and strictly follows the laws and regulations related to child labor prohibition, human rights protection, compensation & welfare, working hours, vacation and other aspects, and carry out continuous supervision and regular review. SMIC never recruits any person below 16 years old. We also establish a human rights protection system to safeguard employees' rights and interests. There were no violations of child labor and forced labor in SMIC's operations.

SMIC also adheres to the principle of legitimate recruitment and use of workforce, and regularly signs collective labor contract, with a labor contract coverage of 100%. We also protect the personal information and privacy of our employees, and continuously improve the satisfaction degree of our employees.

#### 7.2.2 Comprehensive Compensation System

SMIC provides a comprehensive compensation system, covering wage, bonus, stock options and other short-term and long-term incentives, as well as social insurance, commercial insurance, paid leave and other convenient welfare benefits.

With focus on the long-term development of employees, we take a range of long-term measures for retaining and motivating employees in the long term. Based on the performance and service length of employees, we provide relevant bonus. Meanwhile, we also provide stock options for the management staff to motivate them to make long-term contributions to the company.

SMIC pays social insurance for qualified employees according to relevant state and local laws and regulations, covering pension, medical treatment, unemployment, work-related injury and maternity. The social insurance coverage of domestic employees has reached 100%. In addition to these legal protections, employees and even their families can benefit from the company's supplementary group commercial insurance program, covering life insurance, accident insurance, health insurance and maternity insurance. Moreover, employees are enrolled in the public housing fund. The benefit plans for the employees of our overseas subsidiaries comply with or exceed the HQ's rules and regulations.

To improve employee productivity and well-being, SMIC offers humanized paid vacation for a better work-life balance on the part of employees. For instance, the company's annual paid leave policy is superior to the state regulations; we also implement the sick leave system to offer leave and pay subsidies to employees with critical illness. We not only guarantee the vacation welfare of special groups, such as pregnant employees (in terms of leave for prenatal examination, maternity leave, paternity leave, breastfeeding leave (1h/d for female employees in their lactation period),

etc.), but also retain the work posts of employees on maternity leave. Our Maternity and Parental Leave Program contributes to the retention of employees, and 92.6% of employees choose to stay with us after their maternity leave or paternity leave.

Employees' maternity leave and paternity leave in 2016					
Project	Total	Male	Female		
Total number of employees for maternity and parental leave	990	412	578		
Total number of retained employees after maternity and parental leave	917	386	531		
Proportion(%)	92.6%	93.7%	91.9%		

SMIC also provides other convenient welfare benefits, including: • SMIC LQs and leisure & fitness facilities

- Free shuttle bus and working meals
- Opportunity to be provided with first-class education in SMIC Kindergarten and School for their children and relevant subsidy on tuition.
- Various club activities
- Discounts of surrounding businesses, etc.

#### 7.2.3 Awards and Incentives

SMIC sets up a range of awards to motivate teams and individuals, to encourage employees' constant pursuit of personal development, and to thus enhance our competitiveness. The awards set up by the company include:

Award Name	Set purpose
President's Award	To motivate teams and individuals to promote revenue growth and cost optimization by adopting innovative concepts
Continuous Improvement Team Award	To encourage and recognize innovative projects that improve quality control and standardized production
Outstanding Manufacturing Assistant Award	To recognize outstanding manufacturing assistants(MAs) of each factory
Long Service Employee Award	To appreciate senior employees' long- term devotion and commitment to the company

#### 7.2.4 Democratic Management

SMIC establishes its labor union and related management system as required by the laws and regulations of the state, and adopts democratic management to safeguard the rights and interests of employees. The labor union consists of chairman, vice executive chairman, vice chairman, members, office specialist, etc. The post of chairman of the labor union is held by the vice president of the company, and the members of the labor union are the representatives of various departments.



Promoted by the labor union, employees actively participate in technical innovations, company competitions, proposals, polls or elections, recognition awards, model employees and other business related activities; the labor union also promotes corporate culture, and organizes cultural and sports activities to enrich the spare time life of employees.

## 7.3 Health and Safety

At the beginning of its founding, the company closely followed OHSAS 18001 to establish its OHS management system and systematically control health and safety factors. According to the Law of the People's Republic of China on the Prevention and Control of Occupational Diseases, we provide physical examinations to the employees who may be exposed to occupational hazards. In 2016, 3,188 employees received the physical examination, with a physical examination and health file coverage of 100%.

# 7.3.1 Caring for Employees' Physical and Mental Health

SMIC cares for employees' physical and mental health, and conducts related projects.

#### Health Station (HS)

We set up health stations in the plants or LQs with experienced health-care workers and sufficient medical facilities. Health stations provide free medical service and emergency medical aid for employees and their immediate families. General diseases can be treated in the company. We offer several health promotion courses each year to enhance their awareness of "Care for Health and Focus on Prevention".



#### **CPR** Training

To improve the first-aid awareness of employees, all sites of the company have included CPR as a normal training program, and opened CPR training courses in public courses in their health stations. Each year, we arrange a certain percentage of employees (engineers, operators, secretaries, etc.) to join preliminary and recurrent trainings, and conduct CPR contest in ESH safety month. In 2016, 2,233 employees received CPR training.

#### **Control of Infectious Diseases**

Control of infectious diseases underlies the construction of a harmonious society. As a member of the society, SMIC feels obliged to do its bit for the control of infectious diseases. Each year new employees are arranged to get vaccinated against measles. Those suffering from hepatitis, tuberculosis and other infectious diseases are under unified management and checked at regular intervals. In 2016, 800 employees were inoculated against measles.

#### Psychological Crisis Defense System

In order to prevent serious psychological crisis threatening individuals, companies and society, SMIC has been improving psychological crisis defense system. In 2016, SMIC has established a complete three-stage defense process and system including "employee on-boarding psychological crisis cal survey"  $\rightarrow$  "psychological crisis prevention"  $\rightarrow$  "psychological crisis management".

#### Employee Assistant Program (EAP)

We set up 24-hour psychological assistance hotline and psychological counseling room, and are committed to helping employees to deal with the pressure from work, families and themselves. In 2016, we provided psychological counseling service for 298 employees and their immediate families involving various aspects of EAP.



In addition to case counseling, SMIC also organizes rich and colorful themed activities, and hopes to improve the mental health of employees concerning the issues on work or life, help them achieve mutual psychological assistance and enhance their happiness and promote employees' psychological health and happiness.

#### 7.3.2 Healthy and Safe Work Environment

Our company is always committed to create a healthy and safe working environment for our employees as well as reduce any hazards. During the construction phase, the company attaches huge importance in risk source control. A new risk survey and evaluation mechanism is developed to ensure if there were fire prevention, safety facilities and emergency response for fabs that were undergoing construction. During the equipment installation phase, there is very strict control over handling hazardous chemicals and other related items, change management, and an emphasis on checking equipment including safety interlock device and sensors, to control and reduce any risks. When the fab is put into operation, an emergency response organization is established, and there are regular drills and regular maintenance of fire equipment and safety devices, and work areas are regularly inspected for occupational hazards. Furthermore, personal protective equipment are provided for employees holding special posts, so as to timely eliminate potential health and safety hazards.

#### Safety Management

In 2016, SMIC ultimately achieved its safety management goal of zero major fire accident through implementing safety education training, zero-warning drill, large-scale external fire training, cross-plant risk control meeting, fire risk inspection and other projects.







Every year in June, the company holds an Environment Safety and Health (ESH) month to promote safety, the company's management team places huge importance to ESH and are personally involved. SCBA, fire and CPR training activities were performed, while there were other initiatives that included safety month posters, and making a safety and environmental protection video. Our Beijing Plant also received the honorable title of "National Safety Culture Construction Model Enterprise" from the Beijing Municipal Bureau of Work Safety.



#### Recordable injury rate

Our company records injuries in accordance with OHSAS standards. SMIC's recordable injury rate is at a low level in the industry. In 2016, our recordable injury rate reached historically low levels; there was no work-related death case; the total number of working days lost due to injuries amounted to 273. In the future, we will continue to reduce the recordable injury rate and make it our absolute goal to keep injury rate at zero.



 \* The data in above chart without LFoundry
 \* Injury Rate (IR): Number of recordable injuriesx200,000/Total number of work hours, (per 200,00 work hours)

## 7.4 Career Development

SMIC cares about employees' career development, establishes rational developmental channels, provides full boosting resources and builds a special retention system.

#### 7.4.1 Employee Career Development Channel

In order to meet the needs for common development of the company and employees, the company creates the channel for career development in both management and technique.



#### Longitudinal Development Channel - Promotion

The company provides promotion opportunities each year for the employees with excellent performance and better skills so as to motivate them in salaries, bonus, development opportunities and other aspects.

#### Horizontal Development Channel - Transfer

The company releases internal job vacancies on the intranet based on business needs each year. Employees may apply for such vacancies according to their interests, strengths and future career planning. This is conducive to fully mobilizing the enthusiasm of the staff's initiative and enthusiasm, optimize the allocation of human resources.

#### Rapid Development Channel

In order to build a rapid development channel for technical talents, attract high-potential talents and develop skillful technicians, the company has set up a rapid development program. Participants of the program receive closer attention and more training and also shoulder more responsibilities, and can rapidly grow into the technical backbones of the company.

#### 7.4.2 Employee Career Development Booster

In order to achieve constant development of employees and the company, we provide comprehensive resources and support in various aspects, including career development boosters such as training, e-learning platform, further study plan and corporate library.

#### Employee training

The company provides targeted training for all employees of different levels, covering on-board training for new employees, management capability training for front-line managers as well as middle and senior supervisors, etc.; it also provides training contents of different dimensions, such as enterprise culture, professional skills training, general skills training, and management capability & leadership development training; it introduces a diversified range of training forms, including face-to-face training, on-the-job training, rotation training, learning team, reading team, repository, etc. In 2016, the company provided 481,180 hours of trainings to 89,372 persons (27.9h/person). 288 persons were awarded with the title of "Excellent Trainer" by the company.



#### E-learning Platform

For the convenience of employees' learning at any time, the company created an E-Leaning platform that includes 1,121 courses, including the most advanced semiconductor technology in domestic. To adapt to the demands of employee development in the new era, new-version E-Learning platform upgrading will be provided, and, in the future, a richer variety of courses will be provided for employees to improve their learning experience, satisfy the learning demands and increase the learning efficiency of the company.

## e-Learning System



#### Further Education Program

The enterprise's Further Education Program provides an opportunity and platform for employees to continue their studies by inviting local top universities to set up master, bachelor and college programs, so as to meet the needs of employees of different levels and improve their overall cultural level. Meanwhile, tuition subsidy is provided for eligible employees. SMIC cooperates with Fudan University, Shanghai University, Peking University, Beijing University of Aeronautics and Astronautics, Beijing

Institute of Petrochemical Technology, Tianjin University, Shenzhen University, etc.

#### Corporate Library

To satisfy employees' demand for new knowledge, the company has set up a library with more than 700 books covering science & technology, management, economics, humanities & social science, cultural life, inspiration, self-help, etc. The library has become a platform for employees' self-improvement.employees' self-improvement.



#### 7.4.3 Talents Retention

Employees are the most important assets of our company. Besides providing competitive compensation and welfare and diversified career development channels, we keep promoting corporate culture, advocate open communication, care for mental and physical health of employees and formulate pertinent retention plans to retain our outstanding employees.

Employee turnover in 2016: classification based on gender: female: 18.73%; male: 16.51%; classification based on age: below 30 years old: 20.53%; above 30-40 years old: 7.63%; above 40 years old: 0%; classification based on region: SH: 17.11%; BJ: 21.92%; TJ: 15.12%; SZ: 15.57%.

Employee turnover:





#### **Cohesion Enhancement**

SMIC continuously promotes new enterprise culture through carrying out various activities, such as core value symposiums, themed essay contests, micro film contest, themed activation activities, senior executive review meeting and online appraisal. Through creating a rich cultural atmosphere and introducing new culture into every aspect of enterprise work, SMIC aims to guide employees in achieving a profound understanding of the enterprise's core values and behaviors, promote their recognition of and identification with new enterprise culture, establish a unified enterprise culture system, strengthen the enterprise's cohesion and competitiveness and build its good image.

#### Advocacy of Open Communication

We have regular communication conferences attended by the Chairman, CEO and all managers and employee representatives, as well as regular meetings for the communication with front-line staff and MAs. We have also created a communication mailbox to ensure smooth communication. In 2016, we held 35 seminars.



Communication Type	
Chairman, CEO and all managers and employee representatives communication meeting	Once quarterly
Employee communication meeting	Once bimonthly
Manufacturing assistant communication meeting	Twice monthly
Technical trainee communication meeting	1-2 times every six months
Communication with e-mail/tel.	Realtime

On the other hand, to communicate with employees applying for resignation, we've collected more straightforward, objective and constructive opinions which help us to identify the factors for employee retention and to achieve better results in retention. In 2016, the rate of personal and telephone interviews reached above 85%.

#### **MA Retention**

Manufacturing assistants (MAs) account for the largest proportion in the company and are also the most front-line employees. To enhance the organizational identification of this group and to reduce their turnover rate, SMIC started to conduct MA retention programs since 2012, and it's been four years till now. Programs completed in 2016 included post measurement, new environment fit-in, good character shaping, festival care and so forth.

	Description
Job Evaluation	To reduce turnover due to mismatch between personal characteristics and position requirements, and to screen emotional high-risk candidates to reduce accident rates, the MA candidate-position matching measurement project was launched across the board.
New Environment Fit-in	Help newcomers to quickly get familiar with the surrounding environment, understand the psychological process of adapting to a new job, and learn about health knowledge in shift work; and solve their psychological problems as they, a er being employed, complete their transition to the professional MA role as SMIC requires. Promote newcomers' interpersonal and communication skills, and enhance their stability.
Good Character Shaping	23 themes activities, help newly recruited young employees build good characters, set specific life goals, and establish healthy relations and views on love and marriage. Incubate via public benefit activities the team-work cooperating, thanksgiv- ing and helping characters in employees
Festival Care	The employee care team shall, with presents prepared beforehand, pay visits to 2,261 employees upon every festival like Spring Festival, Dragon Boat Festival and Mid-Autumn Festival, and celebrate the Chinese traditional festivals together with the employees, so that the MAs, despite the distance away from home, will still feel the family care.

## 7.5 Employee Life

#### 7.5.1 Rich and colorful employee activities

SMIC advocates healthy, rich and colorful employee lifestyles, which not only show the elegant demeanor of our employees but also enhance the cohesion of our company.

#### New Year Party

On January 11, 2016, the Shanghai headquarters of SMIC held its New Year Party 2016, themed by "SMIC, Our Culture and Our Dream", and other plants also held new year's parties. The party advocated the important role of new enterprise culture in the further development of the company, and encouraged all the members of SMIC to continuously make down-to-earth efforts and forge ahead under the goal of "building a high-quality, innovative and trustworthy world-leading integrated circuit manufacturer".



#### Family open day

On May 7, 2016, the Tianjin Plant of SMIC held its second "Innovation • Reincarnation • New Beginning- 2016 SMIC (Tianjin) Family Open Day" activity. Employees' family members wrote their best wishes on the signing wall, such as "Higher Yield by SMIC (Tianjin), Better Future for SMIC". The activity designed a link of excellent and interesting games suitable for both young and old, including Flying Chess, The Impossible Test, Wheelbarrow Race, Rope Skipping, Fun Throw, Mini-golf and so forth, and also arranged the link of children's playground, covering Naughty Fort, Kiddie Ride, Fishing, Squiggle Game, Ringtoss with Awards, Clay Figurine Making, Sugar Man, Folklore Performance Art, Interactive Clown Show, etc.



#### Micro Film Contest

In May, 2016, SMIC launched the enterprise culture-oriented Micro Film Contest, themed by "Stories of Members of SMIC Family". The contest received nearly 20 scripts and 14 works. Since October, the micro films had been played on our Intranet and mobile corporate account and in the canteen for over a month, during which we recorded 8,888 effective online votes, indicating 60% employees' participation.



#### Sports meeting

On November 11, 2016, SMIC held its sports meeting, themed by "Staying True to Our Mission, and Creating a Common Future with SMIC". The sports meeting propagated the company's original will of growing into a big and powerful company, embracing the prosperous contemporary and creating a better future with a higher, faster and stronger pace, and also raised employees' fighting spirit, presented the graceful bearing of various departments and enhanced our enterprise culture.



#### Performance contest

In 2016, the third manufacturing workers' performance contest was held in each plant of SMIC. This activity not only provided an opportunity of talent show for manufacturing workers, but also further propagated and implemented the innovative spirit advocated by the new enterprise cultural values. It also fully embodied employee's innovative spirit, aroused their passion in life and work, and received unanimous praises by both employees and supervisors.



#### Technical innovation & labor competition

In 2016, SMIC organized its employees to take part in all kinds of technical innovation & labor competitions and advanced figure selection activities organized by local government organizations.

In the technical innovation & labor competition organized by Zhangjiang High-tech Park, our Shanghai site won 14 awards, accounting for 1/4 of the total number of awards, and was crowned in five items, that is, technical innovation achievements, advanced operation methods, proposals, technical innovation talents and worker-inventors.

In the "Enterprise-loving Good Employee" & "Employee-loving Good Manager" Commendation Conference organized by Beijing Economic-Technological Development Area, Zhang Xin, Vice President and Manager of our Beijing Plant, won the title of "Employee-loving Good Manager", and 22 employees from our Beijing Plant won the title of "Enterprise-loving Good Employee"; our Beijing Plant also won the "Medal of Capital Model Worker" 2016.



#### Diversified festival activities

SMIC not only organizes activities on traditional festivals, such as the Lantern Festival, the Dragon Boat Festival and the Mid-autumn Festival, but also organizes activities targeting specific employee groups on the International Working Women's Day (March 8), the International Secretary Day, etc.



### Activities organized by arts & sports associations

Each plant of SMIC has established several arts & sports associations, which unite with the labor union to organize a diversified range of activities. These associations have greatly enriched employees' spare time life, effectively mobilized their initiatives and better prepared them to serve the company.



# 7.5.2 Considerate and convenient life service facilities SMIC LQs

Wherever we build production sites, we also build Living Quarters (LQs) and provide complete supporting facilities to care for our employees and their families, including fitness facilities, coffee shops, 24-hour convenience stores, medical and dental clinics, as well as banking, communication, insurance, mail and a series of other convenient services.



Amenities-Coffee bar

To meet the demand for housing, we are expanding our LQs and leasing off-campus dormitories as needed. In addition to permanent employee housing, each LQ has guest rooms available for new employees and traveling staff at zero cost, and for other guests at a modest fee.

#### \*Shanghai LQ

The Shanghai LQ (Zhangjiang SMIC LQ) of our Shanghai site occupies a floor area of 276,000m<sup>2</sup>, and houses more than 2,500 employees and their families. It is 1.4km from our HQ facility, accessible by foot, bicycle, or free shuttle buses.



Shanghai Zhangjiang LQ

To further meet the development demand of our Shanghai site, SMIC newly built its Tangzhen LQ, which is located on Nancao Road of Tangzhen Town, Pudong New Area of Shanghai and is about 7km away from our company. Tangzhen LQ has a total floor area of more than 70,000m<sup>2</sup> and a total building area of more than 130,000m<sup>2</sup>, and consists of 16 high-rise residential buildings that offer a total of 1,100 family houses and 431 dormitory houses and can meet the residential demands of about 4,500 employees. Both family houses and dormitory houses are finely decorated, and are equipped with basic furniture according to employee demands. It is also built with children centers, large-scale underground garages, ground garages, commercial buildings and other supporting facilities. It is estimated that they will be available for the accommodation of employees and their families in the second guarter of 2017.



#### \*Beijing LQ

Our Beijing LQ, 2.6km away from our Beijing Plant, has 724 apartments and 371 single apartments, and provides 1,760 dormitory beds. As of the end of 2016, it accommodated 4,258 employees. Meanwhile, Beijing LQ also provides facilities like recreation center, restaurant and shop and is accessible by feet or bicycle to and from work. To adapt to the development of our Beijing Plant and meet employees' residential demands, our Beijing LQ is building three new apartment buildings, which occupy a total building area of 20,000m<sup>2</sup> and will provide 135 finely-decorated apartments. By 2016, the roughcast house construction of the main work had been completed.





#### \*Tianjin LQ

Our Tianjin LQ is about 3km away from our Tianjin Plant, and houses about 1,277 Tianjin-based employees and their families, with 231 units in three apartment buildings, including one low density dormitory dedicated to 560 of our manufacturing assistants. Within the compound, there are restaurants, community centers, gym, KTV, basketball courts, staff canteen, entertainment and fitness utilities.



#### Dining Service

All of our production sites have cafeterias of different scales with a variety of dining options offered according to the number of employees. They are run by dining service providers, and offer a range of Chinese and Western cuisines. In 2016, multiple gourmet festivals were held.



Dining services

#### **Transportation Services**

To better serve employees, save energy and reduce carbon emissions, we provide free bus service for different routes between the company, relevant metro stations, and our LQs via new energy shuttle busses. In 2016, a total of 3.5 million person-times took shuttle busses. Meanwhile, to encourage the driving of new energy vehicles, we have also erected charging piles in the plant.





# **Community Involvement**

69

## 8.1 SMIC Private Schools

To relieve employees' anxiety about their children's education, SMIC invested heavily in building SMIC Private Schools. At the beginning, they mainly served the children of SMIC's employees; with continuous success being achieved, they were formally opened to the public in 2004 for the sharing of high-quality educational resources. This move was warmly welcomed and highly praised by both employees and the society.

#### 8.1.1 SMIC Shanghai Private School

SMIC Shanghai Private School was invested and founded by Semiconductor Manufacturing International Corporation (SMIC) in September, 2001. The school has a floor area of 120mu and a green area of nearly 50mu. It is a private school offering the usual K-12 education, and is equipped with all kinds of academic and athletic facilities and an observatory.

As of the end of 2016, the school had more than 2,800 students and nearly 400 faculty members. The school has won many honorary titles and awards, including two distinguished awards from the National Private School Association and Shanghai Education Council, as well as awards in academic, art, school newspaper, sports and many other competitions both at home and abroad. For more information, please visit http://www.smicschool.com/.





As approved by the U.S. College Board, SMIC Shanghai Private School administers the SAT, ACT, and AP exams to our English Track students, nearly all of whom receive admission to top universities. The English Track of the school passed the six-year full certification by the Western Association of Schools and Colleges (WASC) in July, 2016, the highest-level certification granted by the institution. WASC is one of the six authoritative educational institutions authorized by the US State Department for the certification of public and private schools, colleges and universities. The certification prioritizes education as its mission and has a certain period of validity, and schools need to make constant improvements to update the next round of certification. Its evaluation work is rigorous, impartial and comprehensive. Being certified by WASC proves the correctness of a school in its school-running direction and philosophy, testifies to its educational and teaching quality, and provides an authoritative and honorable credit guarantee for the school to the society.

#### 8.1.2 SMIC Beijing Private School

Invested and founded by SMIC Beijing in 2005, SMIC Beijing Private School has a floor area of above 40mu, and is equipped with all kinds of modern academic and athletic facilities and with a 750m<sup>2</sup> library. It is a private school with distinctive bilingual teaching features and offering the usual K-12 education. As of the end of 2016, the school had more than 300 teachers (including more than 50 foreign teachers), and the Chinese Track and English Track from Kindergarten to Grade 9 included a total of above 2,000 students.

Since its founding more than ten years ago, the school has always upheld its motto of "Honor, Excellence, Community, Joy", and devoted itself to provide high-quality services to students. The English Track of the school is an international section with a prominent academic style, and its students come from 16 countries and regions; its teachers, mainly from the US, are very passionate and have accumulated rich experience in teaching students from diversified cultural backgrounds, and they employ heuristic and interactive teaching to simulate students' curiosity and initiatives, to encourage their participation in academic and extracurricular activities and their pursuit of excellence and to strengthen their team awareness and "happy growth concepts". For more information, please visit http://www.bjsmicschool.com/.



#### 8.1.3 A Variety of Featured School Activities Cultural activities

#### International Day

On May 21, 2016, SMIC Shanghai Private School held its International Day activity. The International Day activity is a traditional activity held on an annual basis by SMIC Shanghai Private School, and each year it attracts numerous visitors from many external schools and communities. Singing and dancing to the traditional music of various countries, the children welcomed their parents and the visiting guests in a happy atmosphere. The guests were deeply impressed by the children's absolutely lifelike performance, well-prepared classroom layout, amazing handicrafts and diversified delicacies. For more information, please visit http://mp.weixin.qq.com/s?\_\_biz=MzAxNTQxO-

TA1OA==&mid=2649571362&idx=1&sn=c799a4d55e96d18d81df4f9abb3 09671#rd



#### Classics reading

On March 31, 2016, the Chinese Track of SMIC Shanghai Private School held its annual classics reading & field courses series exhibition activities, i.e., Classic Poems & Essays Reading Meeting. Students from a total of ten classes took part in this reading meeting, and read not only outstanding poems and essays from both at home and abroad from the ancient times to present but also their own works. In the process of reading classics, they immersed themselves into the "literary and elegant" fine atmosphere, came to appreciate the beauty of classics and received profound cultural edification. For more information, please visit http://mp.weix-

#### in.qq.com/s?\_\_biz=MzAx-

NzQ3NTY1MQ==&mid=2649322704&idx=1&sn=3321ee0dd01dfadca4a77 56480423032#rd.



In June, 2016, at the dawn of the Dragon Boat Festival, the English Track of Beijing SMIC Private School held its "First Chinese Classics Reading Meeting", a meeting dominated by recitations, supplemented by singing, calligraphy and instrumental playing and devoted to stimulate students' interest in reading, nurture their literary cultivation and feelings and carrying forward the Chinese cultural traditions.



#### Vocabulary Parade

On October 28, 2016, the students from the Primary Sections of the Chinese Track and English Track of SMIC Shanghai Private School took part in a fantastic and splendid dressed-up vocabulary parade. According to the rules of this activity, students would choose a word and then dress themselves up according to the word with props and costumes. This activity provided an opportunity for students to experience the happiness of learning through lively activities, and also stimulated students' infinite creativities. For more information, please visit http://mp.weix-in.qq.com/s?\_biz=MzAxNTQxO-

TA1OA==&mid=2649571878&idx=1&sn=512e7ed363d0ea8790305f1f5ac 064fb&chksm=839db1fbb4ea38ed13df2c238edcad3bb08c6176f4da91165 9dfd9ddd54abd394ac625cb81d9#rd.



#### Sports activities

#### Sports Meeting

On October 14, 2016, SMIC Shanghai Private School held its sports meeting. The sports meeting was a great reflection of students' vigorous youth and vitality, and its successful holding also promoted SMIC's pursuit of the educational goal of "physical and mental health" within the whole school. For more information, please visit http://mp.weixin.qq.com/s?\_\_biz=MzAx-

NzQ3NTY1MQ==&mid=2649323006&idx=1&sn=4944485143d95dabb405 48d96e8b79b0&chksm=83f924d2b48eadc4ff30a6db927fc2cac68981f50b 648a7fc8bfcc93fd95c6711af2d2147d90#rd.

#### http://mp.weixin.qq.com/s?\_\_biz=MzAx-

NzQ3NTY1MQ==&mid=2649322947&idx=1&sn=9ff79a8a66ce70bb6371d 5abd37f7df5&chksm=83f924efb48eadf9cb30d115f40cc275b72ae37dc7be be514a16108f8fe6520b95c0c5fffc7a#rd.



#### • Winning prizes in CCA China

In the CCA China 2016-2017 (Tsinghua University • Beijing), the aerobics team of Beijing SMIC Private School scored the seventh place in the Flower-ball On-campus Motion Demonstration (Open Junior Class C, 2014), and the sixth place in the Flower-ball On-campus Motion Demonstration (Class C, 2014), and the instructor was granted the title of "Excellent Coach".





#### Swimming Contest

On September 24, 2016, the Invitation Meet of the 6th SMIC Private School Swimming Contest started. Nearly 300 contestants from Grades 1-12 in our school, grouped in ages, took part in the 25 meter breaststroke, the 25 meter freestyle, the 50 meter breaststroke, the 50 meter freestyle, the 50 meter backstroke, and the 50 meter butterfly in six events. The swimming contest disciplined the physical and mental quality of students, and also embodied SMIC's pursuit of the educational goal of "physical and mental health". For more information, please visit

#### Fun Games

On October 17, 2016, Beijing SMIC Private School held its Autumn On-campus Fun Games, themed by "Games, Happiness and Thanks-giving". The games contained Good Bye Little Fish, The Hare and the Tortoise, Single-Plank Bridge, Wheel Rolling, Tower of Hanoi, etc.



## 8.2 Charity and Public Welfare

Ever since SMIC was founded in 2000, our active involvement in public services reached out to many people, far beyond our company campus; we also cooperated with many other schools and with charities, and participated in regional environmental protection and humanitarian aid. In recent years, volunteers of different ages helped tens of thousands of people. In 2016, we exceeded our goal, with a total number of volunteer service hours of 17,988.

## 8.2.1 SMIC Liver Transplant Program for Children

In April, 2013, SMIC initiated the "SMIC Liver Transplant Program for Children", with annual donations to the China Soong Ching Ling Foundation. The donation has funded liver transplants for impoverished children at Renji Hospital (affiliated with Jiao Tong University School of Medicine) in Shanghai. The program provides afflicted children with the opportunity for a new life, and draws attention to their needs from the local community.

Motivated by SMIC. "SMIC Liver Transplant Program for Children" project gradually radiated from the semiconductor industry to the whole society, and became a common mission and responsibility of public welfare, for the benefit of society. As of the end of 2016, the project obtained a total donation of nearly 12 million yuan including 59 semiconductor industry and 2 social caring enterprises to join the donor team, and more than 170 children from around China had received another chance at life. On May 30, 2016, Motivated by SMIC, "SMIC Liver Transplant Program for Children" project gradually radiated from the semiconductor industry to the whole society, and became a common mission and responsibility of public welfare, for the benefit of society. As of the end of 2016, the project obtained a total donation of nearly 12 million yuan including 59 semiconductor industry and 2 social caring enterprises to join the donor team, and more than 170 children from around China had received another chance at life. On May 30, 2016, SMIC made the fourth donation for liver transplant program to the China Soong Ching Ling Foundation and donated 2.55 million yuan. A total of 8.55 million yuan had been donated by SMIC.



### 8.2.2 Zhangjiang Fun Run

On September 23, 2016, more than 120 employees from the Shanghai site of SMIC took part in the ninth "Zhangjiang Fun Run". During the competition, all the participants made it to the end with mutual support and encouragement, which fully embodied the spirits of "happy and mutual support" and "toughness and perseverance" and showed the style of our employees. At the scene of the event, the company donated RMB 10,000 to the charities out of love and compassion.



#### 8.2.3 Visit to Orphanage and Nursing Home

Many employees of SMIC helped orphans and elders as volunteers in spare time, such as regular visits to children's welfare institutions and nursing homes. During the visit, they helped the staff of institutions in daily healthcare, washing clothes, bathing children, playing games with children and chatting with elders. Sometimes, they would perform their own shows for elders and children.



#### 8.2.4 Volunteer Blood Donation

With response to the government's call, SMIC positively publicizes and organizes the volunteer blood donations. Specially, in 2016, 140 employees from our Shanghai site donated their bloods, aggregating to 28,800ml. Both the number of participants and the volume of blood donated exceeded those of last year.



#### 8.2.5 Art Charity Exhibition

Since 2004, the Art Charity Exhibition Project has been held every year to promote philanthropy with compassion as one of the school's educational themes. The exhibition sells creative handicrafts made by the students, the funds raised have helped many sick children and taught students about the cherishing and sharing of happiness.

On November 19, 2016, the 13th Annual Art Charity Exhibition & Share Our Love "Global Citizens" Charity Performance was held at the Shanghai Children's Art Theater. The event lasted for three hours, and included 20 different programs. The charity performance was followed by an on-site charity auction, which generated a total proceed of RMB 400,000, the highest amount received in the 13 years of the charity auction.



# 8.2.7 The "Love Is Everywhere" Charity Bazaar

On December 31, 2016, Beijing SMIC Private School held the 7th "Love Is Everywhere" Charity Bazaar, a large-scale annual charity fundraising event. This event, containing performance rehearsal, second-hand market and works making, raised more than RMB150,000, donated in full to AGAPE Family Life House and Blue Sky Healing Home.





## 8.2.6 Book donation in Southern Guizhou Province

In November, 2016, the English Track of Beijing SMIC Private School launched the initiative of donating books to the stay-at-home children in Southern Guizhou Province. Our students donated their picture books, novels and other books not in use to build a loving book house for the stay-at-home children. A total of nearly 2,500 books were donated in this activity.

#### 8.2.8 Giving Tree

SMIC Shanghai Private School has been a long-standing supporter of the Giving Tree Project. Established in 2003, the Project is committed to provide gift bags of winter clothes and school supplies for school children from migrant communities. On November 21, 2016, we donated 720 gift bags containing toys, clothes, personal items and books to the children of Evergreen Primary School in Pudong New Area. For more information, please visit http://communitycenter.cn/givingtree.



#### 8.2.9 Hours Famine

The "30 Hours Famine" project, established in 1971 by World Vision, the annual event now occurs in 21 countries, raises money to feed starving children in the world's poorest countries. In 2016, students and teachers from SMIC School took part in the 9th event and raised nearly RMB 200,000 for the event under the support of a total of 1,500 students, parents and faculty members.



#### 8.2.10 Million Trees Planting Project

The Million Tree Planting Project began in 2007 with the aim of raising environmental awareness and showing individuals how to reduce their impact on their surroundings. The project enabled such individuals to plant trees in Inner Mongolia with the goal of planting one million trees in the arid areas by 2014. This goal was achieved in 2012, ahead of schedule. As of 2016, our school had been part of the project for ten years, and the Environment Club had planted more than 1,000 trees in Inner Mongolia.



#### 8.2.11 Protection of local biodiversity

With the progress of urbanization and the invasion by alien species, the survival space of local species is being severely compressed, accompanied by declining number of species. In this context, it's of increasingly vital importance to protect biodiversity, maintain ecological balance and build a healthy ecosphere with rich species.

On November 12, 2016, nearly 80 employees from SMIC organized the local species conservation activity in Nanqiao Town of Fengxian District. The activity received the plantlets, fruits and seeds of a dozen of local plants, which would be conserved in special areas for the breeding of more local plants, thus to contribute to the cause of local biodiversity, ecological and environmental protection.



### 8.2.12 Department Public Welfare Activities

In 2016, many departments spontaneously organized a series of public welfare activities.



Wetland protection activities from Shanghai Facility Department



Hiking environmental protection activities from R & D department



Environmental protection public welfare activities from Beijing MFG department

### Index of "Environmental, Social and Governance Reporting Guide"

ESG Guide Number	Guidance Notes	Report Content or Instructions	Page			
A. Environmental						
Aspect A1: Emissions						
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.		P45			
KPI A1.1	The types of emissions and respective emissions data.	6.7 Air pollution control	P52			
KPI A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	6.3.2 Verification of greenhouse gases	P46			
KPI A1.3	Total hazardous waste produced (in tonnes) and, where propriate, intensity (e.g. per unit of production volume, per facility).	6.8 Waste management	P52			
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	6.8 Waste management	P52			
KPI A1.5	Description of measures to mitigate emissions and results achieved.	6.7 Air pollution control	P52			
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	6.8 Waste management	P52			
Aspect A2: Use of R	lesources					
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	6.1 Environment protection policy	P45			
KPI A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	6.4.2 Consumption of energy	P47			
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	6.6.1 Consumption of water resource	P50			
KPI A2.3	Description of energy use efficiency initiatives and results achieved.	6.4.3 Main energy saving projects in 2016	P48			
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	6.6.2 Main water saving projects in 2016	P50			
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced. $_{\circ}$	2016 Corporate Social Responsibility & Performance Summary	P78			
Aspect A3: The Environment and Natural Resources						
General Disclosure	Policies on minimising the issuer's significant impact on the environment and natural resources.	6.1 Environment protection policy	P45			
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	<ul><li>6.4 Energy management;</li><li>6.6 Water resources management</li></ul>	P47, P50			
B. Social						
Employment and La	bour Practices					
Aspect B1: Employr	nent					
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	7.2 Safeguarding of Rights and Interests	P55			
KPI B1.1	Total workforce by gender, employment type, age group and geographical region.	7.1 Employee Overview	P55			
KPI B1.2	Employee turnover rate by gender, age group and geographical region.	7.4.3 Talent retention	P59			
Aspect B2: Health and Safety						
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	7.3.2 Healthy and safe working environment	P57			
KPI B2.1	Number and rate of work-related fatalities.	7.3.2 Healthy and safe working environment	P57			
KPI B2.2	Lost days due to work injury.	7.3.2 Healthy and safe working environment	P57			
KPI B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	7.3.2 Healthy and safe working environment	P57			

Aspect B3: Develop	ment and Training		
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	7.4.2 Employee Career Development Booster	P58
KPI B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	7.4.2 Employee Career Development Booster	
KPI B3.2	The average training hours completed per employee by gender and employee category.	7.4.2 Employee Career Development Booster	P58
Aspect B4: Labour	Standards		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	7.2.1 Recruitment policies	P55
KPI B4.1	Description of measures to review employment practices to avoid child and forced labour.	7.2.1 Recruitment policies	P55
KPI B4.2	Description of steps taken to eliminate such practices when discovered.	7.2.1 Recruitment policies	P55
Operating Practices	5		
Aspect B5: Supply (	Chain Management		
General Disclosure	Policies on managing environmental and social risks of the supply chain.	5.1 Supply chain profile	P39
KPI B5.1	Number of suppliers by geographical region.	5.1 Supply chain profile	P39
KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	5.2.1 Supplier admittance 5.2.2 Supplier assessment and evaluation	P39
Aspect B6: Product	Responsibility		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	4.3 Product quality and reliability control	P35
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	4.5 Customer evaluations and complaints handling	P36
KPI B6.2	Number of products and service related complaints received and how they are dealt with.	4.5 Customer evaluations and complaints handling	P36
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights.	4.4 Customer information protection P35	
KPI B6.4	Description of quality assurance process and recall procedures.	<ul><li>4.3 Product quality and reliability control</li><li>4.5 Customer evaluations and complaints handling</li></ul>	P35, P36
KPI B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	4.4 Customer information protection	P35
Aspect B7: Anti-cor	ruption		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	3.3 Business and ethics	P29
KPI B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	3.3.3 Anti-bribery policy	P29
KPI B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	3.3.3 Anti-bribery policy	P29
Community			<u>.</u>
Aspect B8: Commu	nity Investment		
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	8 SMIC's involvement in social responsibilities	P67
KPI B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	<ul><li>8.1 SMIC Private schools,</li><li>8.2 Charity and Public Welfare</li></ul>	P69, P72
KPI B8.2	Resources contributed (e.g. money or time) to the focus area.	<ul><li>8.1 SMIC Private schools,</li><li>8.2 Charity and Public Welfare</li></ul>	P69, P72

## SMIC Awards in 2016

Winner	Award winning time	Name of award	Issuing authority	
	January 2016	The 5th Place among Top 50 Innovation Capability in China's Electronics Information Industry in 2016	China Information Technology Industry Federation	
	March 2016	Outstanding Corporate Social Responsibility Award	Hong Kong's Mirror Post	
	July 2016	The 44th Place among China Top-100 Electronic Information Technology Enterprises in 2016	Ministry of Industry and Information Technology	
	July 2016	Top-100 leading Electronic Enterprises with 30 Years Innovation and Development	China Information Technology Industry Federation	
Semiconductor	August 2016	No.48 among Top 100 Enterprises in Shanghai	Shanghai Enterprise Confederation, Shanghai Municipal Entrepreneurs Association and Shanghai Federation of Industrial Economics	
Manufacturing International Corporation	August 2016	No.17 in 2016 Top 100 Manufacturers in Shanghai	Shanghai Enterprise Confederation, Shanghai Municipal Entrepreneurs Association and Shanghai Federation of Industrial Economics	
	August 2016	Pilot Demonstration Enterprise of Social Responsibility Enterprises in Electronic Information Industry	China Electronics Standardization Technology Association	
	November 2016	2016 "Golden Bee "Outstanding Corporate Social Responsibility Report •Employee Information Disclosure Award"	China WTO Tribune	
	December 2016	Recognition Award of Fourth Annual China Industry Award	China Federation of Industrial Economics	
Semiconductor Manufacturing International Corporation (Shanghai)	January 28, 2016	"28nm low power-consumption Logic IC manufacturing process technology" was elected in the 10th China's Semiconductor Innovative Products and Technology	China Semiconductor Industry Association, China Electronics Materials Industry Association, China Electronic Production Equipment Industry Association and China Electronics News	
	January 28 2016	"China's first 200mm high-end MEMS microphone mass production platform"was elected in the 10th China's Semiconductor Innovative Products and Technology"	China Semiconductor Industry Association, China Electronics Materials Industry Association, China Electronic Production Equipment Industry Association and China Electronics News	
	April 2016	2015 National Safety Culture Construction Model Enterprise	State Administration of Work Safety, China Association of Work Safety	
	April 2016	Excellent Carbon and Resource Management Organization	Beijing Environmental Exchange	
Semiconductor Manufacturing International	May 2016	2016 Capital Labor Medal	General Union of Beijing	
Corporation (Beijing)	May 2016	2015 Beijing Safety Culture Construction Model Enterprise	Beijing Administration of Work Safety	
	June 2016	The Second Prize in Safety Knowledge Competition	Beijing Economic and Technological Development Zone Administration of Work Safety	
	October 2016	2015 National Ankang Cup Competition Winning Enterprise	State Administration of Work Safety, All-China Federation of Trade Unions	
Semiconductor Manufacturing International Corporation	June 2016	The Third Prize in Safety Knowledge Competition	Beijing Economic and Technological Development Zone Administration of Work Safety	
Semiconductor Manufacturing International Corporation (Tianjin)	February 2016	Advanced Fire Safety Organization	Tianjin Xiqing Economic-Technological Development Area Management Committee	
Semiconductor Manufacturing International Corporation (Shenzhen)	December 2016	Construction Model Enterprise	Shenzhen Pingshan New District Administration of Work Safety	
	March 2016	The First Place among Ten Key Electronic Information Projects in Jiangsu Province	Development and Reform Commission of Jiangsu Province	
Semiconductor Limited	August 2016	Jiangyin Three - Dimensional Integrated Chip Middle Manufacturing Engineering Center	Science and Technology Bureau of Jiangyin	
	December 2016	Outstanding Enterprise with Foreign Investment in Jiangyin	Jiangyin High Tech Zone	

	Performance indicators	numerical value
	Operation Revenue (Million USD)	2914.2
	Net Profit (Million USD)	376.6
	Total Tax (Million USD)	38
	R&D Investment (Million USD)	318.2
	Total Emissions (Million m3)	4,161,745
	Total amount of NOx (tons)	189
	Total amount of Sulphur Dioxide (tons)	13
	Volatile Organic Solvents (tons)	140
ent	Total Greenhouse Gas Emissions (tons of CO2 equivalent)	1,512,516
	Total Direct Emissions (scope1, tons of CO2 equivalent)	419,424
	Total Indirect Emissions (scope2, tons of CO2 equivalent)	1,093,092
	Amount of Hazardous Waste (tons)	18,956
	Amount of Production Waste (tons)	25,115
	Amount of Water Treatment Sludge (tons)	9,990
	Amount of Domestic Waste (tons)	9,425
	Total Power Consumption (kWh)	1,038,931,709
	Total Natural Gas Consumption (m3)	8,158,229
	Total Steam Consumption (tons)	199,670
	Total Tap Water Consumption (m3)	9,719,442
	Packing materials consumption (tons)	108.4
	14001Passing Percentage(%)	100%
	Employees (number)	17,967
	Proportion of Female Employees(%)	43.6%
	Labor Contract Signing Rate (%)	100%
	Employee Training Coverage (%)	100%
	Employee Training Time Per Capita (hours)	30.5
	Death Toll Due to Work (number)	0
	Loss of Working Days Due to Industrial Injury (days)	273
	Social Donation Amount (10 Thousand Yuan)	256
	Employee Volunteer Service Time (hours)	17,988

\* For Shanghai Site, Beijing Site, Tianjin Site, and Shenzhen Site only.

## 2016 CSR Index Summary

## Report evaluation and recommendations

This report is SMIC's 8th Social Responsibility Report released to the public. In order to keep enhancing our management on
social responsibilities and improving our ability and level on ful Iling social responsibilities, we are looking forward to your
opinions and suggestions. We earnestly ask you to complete the questions in the feedback form and send it back by any of
the following means:
E-mail: qingyu_yang@smics.com
Mailing address: No. 18 Zhang Jiang Road, Pudong New Area, Shanghai Addressee: CSR Department
Postcode: 201203
1. Your general evaluation on SMIC's corporate social responsibility report is
Good Relatively good Average
2. What issues in the report are most concerned by you?
Future Growth Potential     Employee's Physical And Mental Health     Talent Retention
Pollution Control     Energy Consumption     Others
Yes Average NO No idea  No what's your opinion on the clearness, accuracy and completeness of the information, data and indices disclosed in this report?
☐ High ☐ Relatively high ☐ Average ☐ Relatively low ☐ Low
5. What should be improved in this report?
Page layout Report length Issue coverage Form of release Others
You are appreciated to give opinions and suggestions on SMIC's e orts on corporate social responsibility and this report:





#### HQ - Shanghai

No. 18 Zhangjiang Road, Pudong New Area, Shanghai 201203, People's Republic of China Tel:+86 (21) 3861 0000 Fax:+86 (21) 5080 2868

#### Tianjin

No. 19 Xinghua Avenue, Xiqing Economic Development Area, Tianjin 300385, People's Republic of China Tel: +86 (22) 2370 0000 Fax:+86 (22) 2370 1370

#### Taiwan

6F-1, No. 32 Taiyuan Street, Zhubei City Hsinchu County, 30265 Taiwan Tel:+886 3-5600368 Fax:+886 3-5600306

#### Japan

Room No. 080, 8F Shinagawa Grand Central Tower, 2-16-4 Konan, Minato-ku, Tokyo,108-0075 Japan Tel:+81 (3) 6433-1411 Fax:+81 (3) 6433-1412

#### Hong Kong

Suite 3003, 30th Floor, No. 9 Queen's Road Central, Hong Kong Tel:+852 2537 8588 Fax:+852 2537 8206

#### Beijing

No. 18 Wenchang Avenue, Economic Technological Development Area, Beijing 100176, People's Republic of China Tel: +86 (10) 6785 5000 Fax:+86 (10) 6788 5936

#### Shenzhen

Qier Road, Export Processing Zone, PingShan New Area, Shenzhen 518118, People's Republic of China Tel:+86 (755) 2861 0000 Fax: +86 (755) 2861 0000Ext.7000

#### America

1732 N. 1st Street Suite 200, San Jose, CA 95112, USA Tel:+1 (408) 550-8888 Fax:+1 (408) 550-8899

#### Europe

Viale Francesco Restelli 3, 20124 Milano, Italy Tel:+39 (026) 88 4010 Fax:+39 (026) 680 0805

#### LFoundry

Via Pacinotti 7, 67051 Avezzano (AQ), Italy Tel:+39 0863 4231 Fax:+39 0863 412763