

# 2022

Environmental, Social and Governance Report

Semiconductor Manufacturing International Corporation



# Contents

## 01

## A Snapshot of SMIC: I C the Future

Letter from the Chairman **Board Statement** About SMIC SMIC Milestones 2022 Ratings & Rewards ESG Performance Highlig

## 02

## Lean Governance for Lasting Stability

Corporate Governance ESG Governance Risk Management Systen Compliance and Ethics

	03
	04
	05
	06
	07
hts in 2022	08

## 03

## Sustainable Empowerment for Lasting Success

Sincere Service	29
Low-Carbon Operation	39
Enabling Employee Success	52
Caring for Society at SMIC	69

	10
	13
n	21
	22

## Appendix

About This Report	76
Summary of ESG Performance	77
Index of Indicators	78
Vision of the Future	83
Risk Warning	84
Feedback Form	85



## A Snapshot of SMIC: I C the Future

- Letter from the Chairman
- Board Statement
- About SMIC

- SMIC Milestones
- 2022 Ratings & Rewards
- ESG Performance Highlights in 2022



## Letter from the Chairman



Dear Readers:

After 22 years of trials and hardships, SMIC has won SMIC always believes that employee success is an trust, support and assistance from a wide range of important goal of corporate development. We attract stakeholders. Hence, we would like to express our talents from all over the world extensively based on the principles of diversity, fairness, and inclusiveness, sincerest gratitude. focus on building medium- and long-term incentive Looking back to 2022, the global integrated circuit mechanisms, and continuously improve our staff industry has experienced daunting challenges posed training systems. We have integrated humanistic care by the downward shocks of the industry. Thanks to into our corporate gene, strengthened the cohesion the strong support from all sectors of society and the of our teams with long-cultivated corporate culture, joint efforts of all our employees, and by giving top and made every effort to create a warm, loving and priority to guaranteeing manufacturing and capacity energetic working environment, to facilitate a holistic expansion, SMIC achieved a record high business

employee development. performance through vigorous striving despite adversity and entered a new stage of development. We actively responded to the national strategic objec-

SMIC has always regarded solid corporate governance as the cornerstone of sustainable development. The Company, under the leadership and supervision of the Board of Directors, tracks the policy updates of regulators and the development of capital market in real time, actively performs the responsibilities and obligations of ESG governance, and strengthens risk management and control, to ensure that the Company operates in compliance with relevant laws and regulations. We are also making constant innovation on our journey of corporate development, winning the trust of customers world-wide with better products and services, while making steady progress on the path of sustainable development.

tives of carbon peaking and carbon neutrality. Based on our industrial context, we identified climate risks, formulated feasible and effective measures, and integrated energy conservation and environmental protection into the whole process of our operation, to promote the vigorous development of green industry. Together with all employees, we have carried out various environmental activities to contribute our share in protecting lucid waters and lush mountains.

Joining hands with partners in the industrial chain, we actively advocated and devoted ourselves to public welfare for social progress. 2022 marks the tenth year of the SMIC Liver Transplant Program for Children. SMIC mobilized all sectors of society including our employees, relevant companies and charity supporters to join the program with donation accumulated to a total of nearly 40 million yuan, assisting more than 700 needy children with liver diseases.

Looking forward to 2023, in the face of the complex external environment and the cyclical impacts of the industry, SMIC will always adhere to the principle of operating in compliance with laws and regulations as well as the ESG philosophy of "Caring for people, the environment and society", and work with all stakeholders to jointly promote a coordinated and sustainable development of economic growth, environmental friendliness and social harmony for a better future.



Chairman of the Board of SMIC

Dr. Gao Yonggang



◆ Letter from the Chairman ◆ Board Statement ◆ About SMIC ◆ SMIC Milestones ◆ 2022 Ratings & Rewards ◆ ESG Performance Highlights in 2022

## **Board Statement**

### **Responsibilities of the Board of Directors**

As a responsible corporate citizen, SMIC fully recognizes the importance of environment, social and governance (ESG) on the path to a shared development, and joins hands with all stakeholders to make the world a better place. SMIC's Board of Directors undertakes the ultimate responsibility for the ESG governance system, and is accountable for developing the Company's ESG strategy, goal setting and progress, as well as ESG performance.

An ESG Steering Committee is set under the Board of Directors to be responsible for the Company's ESG management. It formulates ESG strategy, objectives and direction by analyzing the internal and external environments, and deliberating corporate development strategy. The ESG Steering Committee leads and guides the ESG Committee in discussing, planning and promoting ESG-related issues, supervises ESG implementation across functional departments, so as to ensure legally compliant operation, and assists the Company in achieving ESG goals, reflecting how the Company cares for people, the environment and society. The ESG Steering Committee reviews the annual ESG Report and submits it to the Board for approval.

### **Issue Analysis**

Keeping abreast of the external environment and peer performance, the ESG Committee communicates closely with our internal and external stakeholders, identifies and assesses material issues, develops working plans based on ESG objectives, and reviews relevant progress regularly.

The ESG Committee is responsible for identifying, managing, overseeing and controlling the Company's ESG-related risks, as well as facilitating the decision-making of the Board by providing risk analysis. The Board of Directors is responsible for overseeing material issues.

### **Daily Implementation**

An ESG Office has been set up at SMIC to optimize the ESG information collection system. Based on the nature of our business, the ESG Office analyses and formulates corresponding goals, policies and action plans to promote a company-wide ESG strategy and integrate it into our daily operation, thereby continuously improving our ESG governance ability.



◆ Letter from the Chairman ◆ Board Statement ◆ About SMIC ◆ SMIC Milestones ◆ 2022 Ratings & Rewards ◆ ESG Performance Highlights in 2022

## About SMIC

Semiconductor Manufacturing International Corporation (SMIC, 00981.HK/688981.SH) is one of the leading foundries in the world and is the front runner in manufacturing capability, manufacturing scale, and comprehensive service in the Chinese Mainland. SMIC Group provides semiconductor foundry and technology services to global customers on 0.35 micron to FinFET process node technologies.

Headquartered in Shanghai, China, SMIC Group has an international manufacturing and service base, with three 8-inch wafer fabrication facilities (fabs) and four 12-inch fabs in Shanghai, Beijing, Tianjin and Shenzhen, and three 12-inch fabs under construction in Shanghai, Beijing and Tianjin. SMIC Group also has marketing and customer service offices in the U.S., Europe, Japan, and Taiwan, China, and a representative office in Hong Kong, China.



For more information, please visit SMIC's official website.







• Letter from the Chairman • Board Statement • About SMIC • SMIC Milestones • 2022 Ratings & Rewards • ESG Performance Highlights in 2022

# SMIC Milestones

• 2000	0	2001	0	2002	0	2003	0	2004	0	2006
SMIC was founded	•	Produced the first 8-inch wafer in Shanghai fab	•••••••••••••••••••••••••••••••••••••••	Semiconductor Manufacturing International (Beijing) Corporation (SMIC Beijing) was founded Mass-produced in 0.18µm process	•	Semiconductor Manufacturing International (Tianjin) Corporation (SMIC Tianjin) was founded Mass-produced in 0.35µm- 0.13µm process	•	Publicly listed in the Hong Kong Stock Exchange (HKEx) and the New York Stock Exchange (NYSE)	•	Mass-produced in 90nm process

<b>o</b> 2016	0	2015	0	2013	0	2011	0	2009	0	2008
Semiconductor Manufacturing South China Corporation (SMSC) was founded		Mass-produced in 28nm process China IC Fund invested in SMIC Obtained approval from the Shanghai municipal government to set up its regional headquarters in Shanghai		Semiconductor Manufacturing North China (Beijing) Corporation (SMNC) was founded	•	Mass-produced in 45/40nm process		Mass-produced in 65/55nm process		Datang Group strategically invested in SMIC Semiconductor Manufacturing International (Shenzhen) Corporation (SMIC Shenzhen) was founded
	0	2017	0	2019	0	2020	0	2021	0	2022
		SMIC made investment in JCET Group		Mass-produced in FinFET process Delisted from the New York Stock Exchange (NYSE)	· · · · · · · · · · · · · · · · · · ·	Listed on the Shanghai Stock Exchange Sci-Tech Innovation Board (SSE STAR) market Semiconductor Manufacturing Beijing Corporation (SMBC) was founded		Semiconductor Manufacturing Oriental Corporation (SMOC) was founded		Semiconductor Manufacturing Tianjin-Xiqing Corporation (SMTC) was founded





Letter from the Chairman
 Board Statement
 About SMIC
 SMIC Milestones
 2022 Ratings & Rewards
 ESG Performance Highlights in 2022

## 2022 Ratings & Rewards





◆ Letter from the Chairman ◆ Board Statement ◆ About SMIC ◆ SMIC Milestones ◆ 2022 Ratings & Rewards ◆ ESG Performance Highlights in 2022

## **ESG Performance** Highlights in 2022

## **Economic Performance**



Revenue

US\$ 7.273 billion

R&D expenses US\$ 733 million Annual growth rate **14.7** %

Net profit attributable to shareholders of the listed Company

Total amount of environmental protection investment

# **B** billion yuan

GHG emissions per unit

10.2 kg CO<sub>2</sub>e/8-inch equivalent wafer photomask layer

Waste generated per unit

0.42kg/8-inch equivalent wafer photomask layer

0.088ton/8-inch equivalent wafer photomask layer

US\$ **1.818** billion

Annual growth rate

33.6 %

Annual growth rate

**6.8** %

**Environmental Performance** 

## Power consumption per unit

10.3 kWh/8-inch equivalent wafer photomask layer

Water consumption per unit

## **Social Performance**

The number of full-time employees

21,619

The number of fresh graduates recruited

2,132

39

Employee volunteer service hours

## 40,987

The SMIC Liver Transplant Program for Children has helped underprivileged children





The cumulative donation amount of the SMIC Liver Transplant Program for Children is nearly





## Lean Governance for Lasting Stability

Compliance with laws and regulations is the mainstay for sustainable corporate development and a win-win industry ecosystem. Upholding this belief, SMIC integrates business ethics, information security and risk management into its core corporate governance strategy to strengthen governance resilience with well-established policies and organizational framework, striving to create sustainable, long-term value for employees, customers and society.

During the reporting period, we have optimized our four-tier sustainability governance system with the facilitation of the SMIC ESG Committee, and developed a SMIC risk management system by regulatory requirements and capital market expectations, shaping an efficient mechanism of internal and external compliance and communication. In doing so, we constantly improve the satisfaction of stakeholders like shareholders and strengthen our resilience against external challenges to promote robust corporate development.

- **Corporate Governance**
- **ESG Governance**
- Risk Management System
- Compliance and Ethics





## **Corporate Governance**

A sound corporate governance is essential for a company's sound development. SMIC clarifies the responsibilities and authority of the Board of Directors and conducts both internal audit and supervision in a compliant manner to safeguard its long-term sound development, and see the sound governance structure as the foundation of actively fulfilling environmental and social responsibilities.

## SMIC Board of Directors

The Board of Directors shall have responsibility for leading and monitoring of the Company and shall be collectively responsible for overseeing and supervising corporate affairs for the success of the Company. Directors are obliged to act objectively in good faith in the best interest of the Company. The Board, acting directly and through its committees, is actively involved in and responsible for determining the overall strategy of the Company, establishing and monitoring the attainment of the Company's goals and objectives, setting corporate governance practices and policies, reviewing the Company's internal control system, and overseeing the Company's financial performance and accounts preparation. The Company's management is responsible for implementing the Company's overall strategy, as well as its day-to-day operations and management. All directors may consult or communicate with the Company's management regarding corporate operations or financial conditions.

## Governance Structure of the Board of Directors

The Board has established the Audit Committee, Compensation Committee, Nomination Committee and Strategic Committee. The committees are governed by their respective charters setting out clear terms of reference.

As of the end of the reporting period, the Board of Directors is structured as follows:



### Corporate Governance ESG Governance Risk Management System Compliance and Ethics

## Board of **Directors**

Chairman of the Board / Executive Director

Gao Yonggang

### **Non-Executive Directors**

Lu Guoqing Yang Lumin Chen Shanzhi Huang Dengshan

### **Independent Non-Executive Directors**

Lau Lawrence Juen-Yee Liu Ming

Fan Ren Da Anthony Wu Hanming

### Secretary of the Board / Secretary of the Company

Guo Guangli





As of the end of the reporting period, the positions of board members in the four committees are as follows:

Board Members	Audit Committee	Compensation Committee	Nomination Committee	Strategic Committee
Gao Yonggang	-	-	Chairman	-
Lu Guoqing	-	Member	-	-
Chen Shanzhi	-	-	-	Chairman
Yang Lumin	-	-	-	Member
Huang Dengshan	-	-	Member	-
Lau Lawrence Juen-Yee	Member	Member	Member	Member
Fan Ren Da Anthony	Chairman	Chairman	Member	-
Liu Ming	Member	Member	-	Member
Wu Hanming	-	-	Member	Member



For more information, please refer to SMIC's official website.

SMIC values Board diversity and ensures that at least one member of the Board of Directors is female. As of the end of the reporting period, the information of Board members is shown as follows:





Ph.D.

## Internal Audit

Internal Audit, as an organization under the Board of Directors performing day-to-day duties, works with the Company's management team to assist the Audit Committee of the Board of Directors in assessing operational risks, and is committed to supporting and urging management to improve the Company's risk management, internal controls and corporate governance system.

## **Planning and Reporting**

- Internal Audit prepares an annual plan of audit activities and resource requirements based on risk assessment, which is approved by the Audit Committee and the Chairman.
- Internal Audit examines and investigates major risks identified by senior management.
- The results of major internal control audits, corrective actions by the management, and the follow-up audit findings on management's corrective actions are presented to the Audit Committee, the Chairman and CEO.
- A summary of audit reports is presented semiannually to the Audit Committee.

## Authority and Responsibility

- Internal Audit may request relevant departments to cooperate, consult relevant records, examine relevant assets, and contact relevant personnel at any time during the audit.
- Internal Audit audits the effectiveness of the Company's systems, procedures and internal control activities.
- After the completion of an audit, Internal Audit will report the audit results to the relevant management team, provide recommendations and suggestions for strengthening internal control and preventing risks, and follow up on and supervise the implementation of corrective measures.
- Internal Audit monitors the implementation of risk management mechanisms at the companylevel and in relevant departments.
- Internal Audit will assist in establishing a sound anti-fraud mechanism, and identify the key areas, aspects and main contents of anti-fraud. Also, reasonable attention and examines shall be paid to potential frauds during the internal audit process.





## ESG Governance

At SMIC, sustainability is our long-standing commitment. Driven by our ESG governance system, we join hands with all to foster a sustainable future of greater resilience.



### ESG Guideline Development

SMIC continues pushing itself toward internationally recognized standards in areas of social development, environmental protection and ethical responsibilities. Meanwhile, we are also making every effort to align our corporate growth with global sustainability trends by implementing sustainability with concrete actions and constantly creating value for stakeholders.

To achieve these goals, we at SMIC are:

Echoing the United Nations Sustainable Development Goals (SDGs), and supporting the SDGs from a multi-dimensional perspective taking into account material social responsibility issues.

Maintaining and developing the ESG management system, implementing and optimizing ESG policies.

Supporting and adhering to the Responsible Business Alliance (RBA) Code of Conduct, and calling on common practice among industry partners.



Creating a safe workplace for employees by obtaining international certifications such as ISOs in environment, safety and health, while pushing the boundary of what's possible in minimizing negative impacts on communities, environment and natural resources.











### Supporting RBA

Responsible Business Alliance (RBA) is the largest industry coalition dedicated to corporate social responsibility in global supply chains. It stays committed to developing industry standards and code of conduct in areas of labor, health and safety, environment and ethics, to ensure that working conditions in the electronics industry or industries in which electronics is a key component and its supply chains are safe, that workers are treated with respect and dignity, and that business operations are environmentally responsible and conducted ethically.

For nearly a decade, SMIC has adopted the RBA-Online system for timely completion of the Self-Assessment

Questionnaire (SAQ), the RBA-developed standardize risk assessment template, to assess the manageme of the Company as a whole and all its fabs regardi environment, health and safety, as well as labor righ and ethical management, and set up improveme plans for existing risks.

At the same time, SMIC actively responds to ESG ar RBA SAQs and related inquiries from customers. Duri the reporting period, the Company and its fabs were al rated as low-risk upon assessment.



The Implementation of RBA Code at SMIC

zed	While committing to observe the RBA Code of Conduct,
ent	we hold our suppliers to the same standards to forge a
ling	responsible supply chain, positioning the industry for
ghts	sustained success.
ent	In 2022, we selected some major local suppliers for on- site audits to learn about their implementation of the
and	RBA Code of Conduct and urged them to rectify their
ring	vulnerabilities.
eall	



The number of ESG and RBA SAQs and related inquiries from customers were replied

66



## ESG Governance Structure

SMIC has established a four-tier sustainability governance system with the Board of Directors as the highest decision-making body and regards the four-tier framework as the foothold for the ongoing development of our ESG governance.

This governance structure embodies our sustainability commitment in governance, society and environment, and clearly defines the working mechanism of all functional departments, effectively promoting ESG engagement across all functions.

## **Board of Directors**

The highest responsible body

### **ESG Steering Committee**

Chairman: Chairman of the Board Vice-Chairman: Co-CEOs

### **ESG Committee**

Member of Directors: L1 Directors Members: Heads of functional departments

**ESG Office** 

:	Responsible for reviewing and approving ESG strategies, goal settings, progresses, and annual ESG reports
	reports

- Responsible for leading the ESG Committee in formulating the Company's ESG strategy, objectives and development directions
- The ESG Steering Committee annually reports to the Board of Directors regarding the results of ESG implementation and future plans, and draws the Company's sustainability blueprint

• Responsible for carrying out ESG agenda, including ESG topics management, work plan development and risk management, as well as highlighting SMIC's core strengths based on the SDGs

- Formulate response strategies, objectives and action plans based on the ESG topics, and organizing meetings from time to time to track the progress and effectiveness of the implementation
- Report progress to the ESG Committee and ensure the implementation of ESG strategies

16

## Stakeholder Communication

SMIC places tremendous importance on stakeholder engagement. After analyzing the Company's commercial relationships and business scenarios, we have identified six key types of stakeholders, namely shareholders/ investors, employees, government, customers, suppliers and society.

During the reporting period, we listened carefully to the voice of all stakeholders on our ESG matters. The members of the ESG Committee communicated closely with them on external environment as well as the Company's current situations, providing a vital reference for our future plans and sustainability.

SMIC actively answers to the expectations of various stakeholders and stands ready to create value in joint efforts with them through dialogue and cooperation.

The Company has a professional team responsible for managing investor relations and communicating to stakeholders and investors in specific channels including but not limited to: announcements, shareholders' meetings, SSE E-interactive, investor hotlines/emails, company official website, roadshows, reverse roadshows, surveys, and broker conferences. During the reporting period, the Company organized and participated in nearly 130 communication meetings.











**Communication Channels and Form** 

### Stakeholder Subjects of Communication Topics of Concern



ns	Stakeholder	Subjects of Communication	Topics of Concern	Communication Channels and Form
by	Government	<ul> <li>National and local government institutions</li> <li>National and local industry associations</li> </ul>	<ul> <li>Future growth potential</li> <li>Outlook on semiconductors</li> <li>The Company's competitive edge in the industry</li> <li>Pollution prevention and control</li> <li>Innovative management</li> </ul>	<ul> <li>Policy teach-ins</li> <li>Seminars</li> <li>Marketing fairs</li> <li>Other conferences and meetings</li> </ul>
ls,	Customers	• Global customers	<ul> <li>Customer service and satisfaction</li> <li>Innovative management</li> <li>The Company's competitive edge in the industry</li> <li>Product quality control</li> <li>Confidential information protec- tion</li> <li>Business ethics</li> </ul>	<ul> <li>Customer satisfaction survey</li> <li>Business/ quality/ technology as sessment meetings for customers</li> <li>Technology seminars</li> <li>Other daily communication with customers</li> </ul>
	Suppliers	<ul> <li>Raw material suppliers</li> <li>Equipment suppliers</li> </ul>	<ul> <li>Quality, price, delivery and service</li> <li>Compliance with laws and regulations</li> <li>Business ethics</li> <li>Supplier sustainability management</li> <li>Anti-corruption</li> </ul>	<ul> <li>Assessment and scoring</li> <li>On-site review</li> <li>Quality questionnaires</li> </ul>
g es	Society	<ul> <li>Media</li> <li>Community</li> <li>Non-profit organizations</li> </ul>	<ul> <li>Corporate governance</li> <li>Economic benefits</li> <li>Innovative management</li> <li>Anti-corruption</li> <li>Social engagement</li> <li>External cooperation</li> <li>Biodiversity conservation</li> </ul>	<ul> <li>The Company's official website</li> <li>Official Wechat account</li> <li>Communication meetings</li> <li>Public welfare activities</li> </ul>





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## Topics of Concern Management











## **Risk Management** System

Risk management is critical to the sustainable development of the Company. In addition to the establishment of a comprehensive corporate risk management structure, SMIC has been continuously improving our corporate risk database by benchmarking against common standards and industry practices and conducting regular risk assessments. Meanwhile, we took a dynamic approach to focus on major risks and actively carried out risk management activities to continuously optimize our risk management practices.

## Development of Risk Management System

Revolving around the company's objectives, SMIC continues to improve our corporate risk management system in accordance with the Charter of the Risk Management Committee and the risk management policy.

## **Decision-Making Level**

**Risk Management Committee:** 

- Keep a close eye on the uncertainties in the Company's internal and external environment and assess their potential impact on stakeholders.
- Establish a corporate risk database comprising five major risk categories: strategy, compliance, operation, market and finance, to improve risk control.
- Take a dynamic approach to identify major risks, develop targeted response strategies, and guide Risk Management Working Group to carry out risk management activities to achieve effective control of risks.
- Assume an active role to protect the interests of stakeholders and regularly report to the Audit Committee of the Board of Directors.



### **Implementation Level**

- Set up a risk management office with dedicated risk management personnel to support the Risk Management Committee, Risk Management Working Group and risk management activities.
- The Risk Management Working Group conducts annual risk assessments, updates potentially significant risks, improves the corporate risk database, and makes timely adjustments in response strategies.

Based on the Charter of the Risk Management Committee, combined with external regulatory norms and excellent industry practices, SMIC has established the following corporate risk management structure.







## Compliance and Ethics

SMIC strictly abides by the laws, regulations and rules of the places where it operates, operates in compliance with the law, abides by business ethics, maintains close contact with customers, and strives to realize the corporate vision of "becoming a high-quality, innovative and trustworthy international first-class integrated circuit manufacturing enterprise".

## Export Compliance Management

Over recent years, international trade competitions and frictions have kept rising, and regional conflicts are escalating. To address the compliance risks and challenges that emerged from such new circumstances, SMIC has been optimizing our Internal Compliance Program (ICP) with digitalization, and advocating cross-border compliance culture, to de-risk trade compliance to the minimum. Meanwhile, we also take the initiative to carry out external cooperation on export control and cross-border data compliance and build of a corporate compliance system, bringing the industry together to empower sustained compliance success for Chinese technology enterprises.

## **Internal Compliance Development**

SMIC has established a systematic internal compliance mechanism covering imports and exports across the Company to ensure the fulfillment of regulatory and compliance obligations in all the countries and regions where our business is involved. In addition, we audit the implementation of ICP system to ensure the effectiveness of management processes and regulations. To clarify the rules, processes and responsibilities of relevant entities involved, we have formulated the ICP Handbook, which covers a wealth of aspects ranging from record keeping and procedure effectiveness assessment to reporting process and response mechanism for non-compliance, providing detailed guidance for the identification, evaluation and control of compliance risks. In addition, we invite external consultants for ICP system audits regularly to ensure the effectiveness of management processes and regulations.



Main Content of the ICP Handbook





SMIC always firmly believes that it is the effort of each employee that make our compliant operation possible. We communicate with employees on the latest regulatory developments and changes in the international trade environment in time, and provide targeted compliance trainings across functions and operations, so as to build our compliance culture by living up our compliance commitment in a top-down approach.



All employees are required to fully understand our compliance obligations in export control and commit to accepting the Export Compliance Policy Statement.

The Cross Border Compliance (CBC) team constantly follows up legal and regulatory trends and explains important provisions concerning the Company's operation to all the key functions.

We promote routine compliance through the Company's internal CBC webpages and emails on a regular basis.

Fostering Compliance Culture Practices

### Introducing third-party blacklist database

During the reporting period, SMIC has further digitalized our compliance management by introducing third-party blacklist database to build an automated screening system that meets the Company's business and compliance needs, achieving complete alignment with the business systems of our customers, suppliers and other business partners, and delivering real-time monitoring of compliance.

Powered by automatic screening and supplemented by manual confirmation, this system gradually replaces manual review in relevant internal systems, making blacklist screening more efficient and accurate. In the meantime, by employing an automatic screening tool of a localized blacklist, the Company effectively prevents the leakage of information screened, thereby keeping internal data safe.



### **Export Control Compliance Training**

During the reporting period, our Cross Border Compliance team provided company-wide export compliance trainings in groups, covering functions related to Operation, Design Service, Corp. Legal, Human Resources, Sales and Finance, to keep fostering cross-border compliance across the Company.





23

### **External Compliance Cooperation**

On top of improving our own compliance system, we are extending the scope of compliance culture to business partners and other third parties to keep abreast of our compliance obligations throughout the industrial chain. SMIC also encourages knowledge sharing and information exchange among all sides by organizing activities such as compliance forums and compliance platform building, contributing our share to the compliant development of the industry.

During the reporting period, SMIC and China Enterprise Confederation reached preliminary cooperation intention in key areas such as the research of and response to international economic and trade policies and regulations, as well as export control and compliance system building of high-tech firms, empowering robust and lasting compliance development for Chinese technology enterprises.

## **SMIC Hosted the First Compliance Forum**

The First SMIC Compliance Forum was successfully held on January 14, 2022. Compliance elites from leading semiconductor enterprises were gathered for a heated discussion on export control regulations in countries around the world. This forum interpreted laws and regulations on export control and cross-border data in China, the United Sates and the European Union.

This forum enabled closer connection among enterprises for a shared development and creation, making new contributions to the compliant development of Chinese enterprises.





## Responsible Minerals Control

Demonstrating our readiness to fulfill corporate responsibilities, SMIC optimizes responsible minerals management on an ongoing basis. In concerted efforts with upstream and downstream enterprises, we resolutely prevent any behavior that damages the environment, violates human rights, fuels armed conflicts or runs against business ethics, to ensure a conflict-free minerals supply chain. To this end, we established a responsible minerals management working group comprised functions such as Corp. Legal, Procurement, Customer Engineering and CSR, which keeps improving our responsible minerals management mechanism, strictly enforces the SMIC Responsible Minerals Policy, and continuously oversees and assesses conflict mineral risks in supply chains, promoting responsible procurement in value chains.

During the reporting period, we conducted due diligence on all suppliers using tools including the Organization for Economic Co-operation and Development (OECD) Due Diligence Guidance for Responsible Minerals Supply Chains, the Conflict Minerals Reporting Template (CMRT) and the Extended Minerals Reporting Template (EMRT) developed by the Responsible Minerals Initiative (RMI), to ensure that our supply chains are legal and compliant. Furthermore, SMIC actively responded to the due diligence of our customers by submitting relevant information in a timely and effective manner to disclose smelter and mineral sourcing compliance.



Responsible Minerals Management Mechanism at SMIC

The percentage of suppliers have completed due diligence

100%

The percentage of compliant smelters

100%

The number of investigations concerning conflict minerals from our customers



## Code of Business Conduct and Ethics

The Company has established a Code of Business Conduct and Ethics (the "Code of Ethics") applicable to all employees, directors, contractors, consultants, agents and business partners to ensure that the Company complies with the requirements of relevant laws and regulations and standards of business conduct. The purpose of the Company's Code of Ethics is to regulate ethical matters including anti-fraud, anti-corruption, respect for the public interest, intellectual property protection, and safety and environment.

Our Code of Ethics mainly covers the following aspects:





### **Ethics Compliance Office**

The Company has an independent Ethics Compliance Office (the "ECO") under the Audit Committee of the Board, responsible for ethics compliance management and independent investigations, provides anonymous reporting channel for any potential violations, and reports regularly to the Audit Committee. The ECO is responsible for formulating ethics compliance-related policies and procedures, monitoring and ensuring that the corporate and employees' professional ethics and business practices comply with the Company's Code of Business Conduct and Ethics, managing and maintaining ethics reporting leads, promptly investigating any fraud leads and conducting legal recourse if a legal violation is suspected, and organizing ethics compliance training for employees to raise their awareness and inform the use of ethics reporting hotline.

### **Signing the Commitment to Integrity**

Advocating the culture of integrity and self-discipline, SMIC applies strict disciplines to eliminate frauds. In order to keep integrity and self-reflection alive at all times, all employees should sign the Commitment to Integrity and Self-Discipline, which includes the areas of business bribery, conflicts of interest, intellectual property rights and information security. In the meantime, all the suppliers should sign the Supplier Commitment to Corporate Social Responsibility upon admittance.

During the reporting period

The percentage of Commitment to Integrity and Self-Discipline signed among new employees

100%

The percentage of supplier commitment to Corporate Social Responsibility signed

100%



## Implementing Ethical Compliance Trainings

In order to continuously enhance the Company's internal ethical compliance awareness and ensure compliant operations, SMIC conducted training for directors, sensitive positions and all employees. During the reporting period, the Company comprehensively upgraded the training materials and test questions from three major sections so that directors and all employees can easily understand and be warned:

To prevent ethical and legal breaches in business interests, the Company has made an available integrity reporting channel, encouraging all employees, directors, contractors, consultants, agents and business partners to report misconduct that violates laws, the Code of Ethics or other policies of the Company. All the information related to whistleblowers will be kept in strict confidentiality, and reprisal, threat, punishment and retaliation against whistleblowers are prohibited.



### Email: Code@smics.com

The ECO or the Audit Committee will review all reports received. The SMIC Compliance Officer will create a log for each reported case to track acceptance, investigation and resolution, and report material violations to the Audit Committee. For alleged wrongdoers, we will refer relevant criminal evidence to authorities to report and file the case.

During the reporting period, there were no corruption litigation cases by employees at SMIC.



- Policy: Clearly define and demonstrate the compliance-related policies.
- Frauds and crimes of high incidence: Through vivid warning cases, including the facts of the crime and the verdict to elaborate the main crimes related to fraud.

• Risk prevention: List the behaviors, hazards and potential consequences of frauds, and prioritize education on SMIC's internal reporting channels and whistleblower protection system.

Corporate Governance
 ESG Governance
 Risk Management System
 Compliance and Ethics

## **Optimizing Ethical Reporting and Investigation Mechanism**



Hotline: +86 (21) 2081 2121

Ethical Compliance Investigation Process

The employee coverage of ethics training in 2022 was

100%

The examination passing rate was

100%



## Sustainable Empowerment for Lasting Success

SMIC offer high-quality products and services leveraging technological innovation. Staying committed to safe and low-carbon operation standard, we strive to contribute our share to environmental protection. Safeguarding the rights and interests of employees, we create a heartwarming workplace. Engaging in public welfare, we empower stakeholders on a shared journey to sustainability.



- Sincere Service
- Low-Carbon Operation
- Enabling Employee Success
- Caring for Society at SMIC



## Sincere Service

SMIC insists on independent innovation, follows a strict quality control process, and relies on a reliable data security system to provide customers with high-quality products and services. At the same time, we embed sustainability into supply chain management, striving to forge a more resilient and sustainable supply chain by growing together with our supply chain partners in a win-win relationship.

## Innovative Research and Development

SMIC regards technological innovation and R&D as the core driving forces of our development. We have set up a well-established innovation management system with a professional and outstanding R&D team dedicated to seeking what's possible in technology innovation. We have set up strict review processes grounded in all the seven R&D stages, providing a robust guarantee for the successful commercialization of R&D projects.







### **Intellectual Property Rights Protection**

Intellectual property rights protection is the path a corporate must take to realize independent innovation. SMIC has formed an efficient and complete end-to-end electronic management model covering every link from solution mining, proposal, review, application to evaluation. Our clearly-defined, detailed and efficient management process is providing robust assurance for the delivery of intellectual property rights protection.

By combining internal and external needs, SMIC has established a practical management system for the technical achievements of member units, centralizes the management of the Group's technology achievements and trademarks, and promotes patent and trademark protection in multiple directions:

- We organize extensive trainings on patent basics through our patent training mechanism and patent reward mechanism. From reward rules to trainings and promotions, we collaborate in various aspects to encourage employee innovation and forge a high-quality patent portfolio
- Following up the increasing subsidiary's company-level Chinese and English trademark application in a timely manner, we keep overseas trademarks effective, thereby empowering our overseas markets and strengthening positive guidance for high-quality patent

Meanwhile, we adopted a range of measures in operation to ensure that intellectual property rights are fully protected:

- Respect the intellectual property rights of others and establish an early warning mechanism
- Apply for registration in a timely manner to protect our IPR achievements and prevent infringement
- Learn about IPR-related emerging policies and requirements from time to time to practically protect our R&D results and legitimate rights and interests
- Actively defend our rights through regular patent monitoring

### Semiconductor Manufacturing International Corporation 2022 Environmental, Social and Governance Report

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During the reporting period

The total number of trademark registration certificates owned by SMIC

126

As of the end of the reporting period

The number of patents applied by the Company totaled

18,799

With obtained authorization

12,869



## Information and Data Security

SMIC highly values stakeholders' trade secrets as well as data and information, and abides by laws and regulations such as the Cyber Security Law of the People's *Republic of China*. Through sound internal control system and diversified security trainings, we have realized effective control over processes such as information collection, and security defense and handling.

While acting in line with our internal information security policy, SMIC also extends the policy to third parties including customers, visitors and suppliers. We enhanced the completeness, confidentiality and availability of data and information through a comprehensive defense system of information security. During the reporting period, all SMIC's main operation sites have been accredited by the ISO 27001:2013 information security management system.



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### Technology Defense and Monitoring System

SMIC has set up an information and data security framework led by the Information Security Committee. Leveraging complete technology defense and monitoring system of confidential information, we drive in-depth participation across all functions to build security and actualize our information protection strategy, which includes:



For information security irregularities of employees, we have formulated strict corrective measures and contingency plans to ensure the comprehensive protection of data information by strengthening physical inspection, establishing emergency procedures, and carrying out emergency drills and training regularly. During the reporting period, SMIC did not experience any material cybersecurity or commercial information leakage incidents.

SMIC protect information security through continually building an intelligent in-depth protection platform. The Intelligent in-depth protection platform, SMIC's intelligent security protection tool, realizes security protection built around business objective. The platform has enabled a closed-loop security system that is intelligent threat detection, intelligent security analysis, and intelligent security control and management, providing back-end support for technical defense and monitoring.

### Information Security Training

SMIC goes beyond institutional management to continuously provide all employees with education and promotion on information security management. To raise information security awareness and strengthen information protection capabilities among employees, we continue to optimize the updates channels on corporate information security based on the ISO 27001 information security management system, ensuring employees are kept abreast of our information security policies.

During the reporting period, 100% of suppliers and visitors received information security training, and 100% of new employees and current employees took annual trainings, which included but was not limited to:

- Trainings on information leakage risks
- Training on confidential information protection policy and confidential information classification
- Training on the measures of information security management
- Training on A-level area information security management

The percentage of information security training received by suppliers and visitors

**100**% **100**%

The percentage of annual training received by new employees and current employees





## Customer Service

SMIC Global Landscaping

Always being customer-oriented, SMIC acts in line with domestic and international laws and regulations on customer safety and product performance throughout our product design, manufacturing and after-sales services. With our continuous boost in technological innovation, we aim to create value for our customers in the long-term through a win-win partnership.

SMIC has professional customer service teams in different countries and regions, such as Shanghai, Beijing, Tianjin, Shenzhen, Taiwan (China), California (the United States), Milan (Italy) and Tokyo (Japan), providing services for customers worldwide.



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### **Improve Customer Satisfaction**

SMIC has a comprehensive system in place to track and handle customer complaints and improve customer satisfaction. Relevant departments are required to investigate all customer complaints timely, and we require to generate an 8D (Eight Disciplines Problem Solving) analysis report within 10 days, and conduct in-depth review and summary. At the same time, we will enforce targeted improvement measures, which are grounded in the underlying cause of complaints, to minimize the occurrence of similar incidents. During the reporting period, all the customer complaints at SMIC were promptly handled in line with relevant procedures.

To further deep dive customer needs, we have updated and adjusted customer satisfaction questionnaires in a timely manner, actively collecting their feedbacks and suggestions. SMIC's customer satisfaction score has been above 80 points for many consecutive years.

SMIC's customer satisfaction score has been above

points for many consecutive years

During the reporting period, SMIC actively engaged in industry seminars and exchange activities, where we learned from the past and envisioned the future with upstream and downstream companies and technical elites of the IC industry.

### 2022 World Conference on Integrated **Circuits & IC CHINA 2022**

On November 17, 2022, the 2022 World Conference on Integrated Circuits & IC CHINA 2022 kicked off in Hefei. To further enhance exchange and cooperation in the global IC industry chain, SMIC took the initiative to showcase our efforts in a wealth of aspects, including continuous investment, capacity expansion and technology R&D.



SMIC's Booth

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### CSIA-ICCAD 2022 Annual Conference

On December 26, 2022, the CSIA-ICCAD 2022 Annual Conference & Xiamen IC Industry Innovation and Development Summit was launched in Xiamen. Themed as "Adhere to Innovation Development for the Future of IC Industry", in-depth discussions were shared on the opportunities and challenges faced by the IC industry and the IC design industry under new circumstances.



SMIC's Booth





SMIC promises customers with on-time and high-standard delivery of premium products. We are striving for quality excellence across all respects.

### ISO 9001 Quality Management System

Focuses on the overall quality improvement of products and services for the quality assurance throughout the Company's design, development, manufacturing and service

### Quality Management System

The Company adheres to industry standard guidelines and has established a comprehensive internal management system.

We have acquired system certifications including the ISO 9001 management system, the TL 9000 Telecom Quality Management System and the IATF 16949 Automotive Quality Management System.

TL 9000 Telecom Quality Management System

Focuses on the quality management system for customers in the telecommunications industry, and emphasizes the integrity of supply chain directives

IATF 16949 Automotive Quality Management System

Focuses on the quality management system for customers in the automotive industry, and aims at eliminating defects across all links of the automotive supply chain and providing quality and services for customers

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## **Product Quality Management System**

The Company adopts a comprehensive product quality control workflow to manage the entire manufacturing and service process covering technology development, wafer fabrication, quality reliability monitoring and customer satisfaction, which mainly includes:



# **Product Quality Assessment and Recall**

To ensure product quality, SMIC has formulated strict product quality assessment and product recall procedures, based on which unqualified products will be dealt in time to avoid any impact on our customers. Meanwhile, we also manage and control product safety and health risks according to the Hazardous Substances Process Management scheme (QC 080000), so that our products comply with the relevant international and Chinese regulations and customer requirements. During the reporting period, there were no major product recalls at SMIC, and no product sold were recalled for safety or health reasons.

In 2022, acting on our principle of "Quality First, First Time Right", SMIC carried out diversified quality improvement activities grounded in product quality, aiming to enhance the building of a quality culture and encourage company-wide engagement in quality management, thereby raising quality awareness.

## Continuous Improvement Team (CIT) and **Quality Month Activities**

SMIC continued with quality improvement activities across fabs in Shanghai, Beijing, Shenzhen and Tianjin, enhancing product quality control through various activities and advocating craftsmanship. These activities have effectively raised company-wide quality awareness, and driven our Company to pursue best-inclass quality and unleash growth potential.

### **Establish the Special Testing Center of Auto**motive Chip Reliability

In October 2022, SMIC's Special Testing Center of Automotive Chip Reliability was officially put into operation. The Center is equipped with various testing capabilities related to the reliability of automotive products that conform to the AEC-Q100 standard, providing well-rounded reliability testing services for automotive chips. By offering various product-level automotive reliability experiments, the Center is capable of testing SMIC's process and intellectual property rights, third-party intellectual property rights and customers' products, which further strengthened the Company's market competitiveness.





# Supply Chain Management

The manufacturing of integrated circuits is situated in the middle segment of the industrial chain and closely connected to both upstream and downstream industries. SMIC continue to improve our supplier management capabilities and integrate the concept of ESG risk into our supply chain management to reduce the overall social and environmental risks of the industrial chain.

# **Supplier Access and Evaluation**

Our current scope of procurement includes a variety of items such as production equipment and its maintenance parts, raw materials, fab facilities, fire-fighting facilities and engineering, and professional services. SMIC has incorporated the requirements of sustainable development into the supplier management systems. We continue to improve supplier management approaches in various dimensions such as access, evaluation, and assessment, to form a standardized and unified management system.

# Supply Chain Management and Planning

SMIC is continuously improving our supplier tiering management specification within the Company. The management specification highly covers the whole life-cycle of the supply chain and refines specific requirements for access, evaluation and management. Incorporating multiple aspects including strategic supply chain management, and raw materials and spare parts procurement, we have formed a global supply chain management and planning, effectively optimizing the product quality and service capacity of SMIC and our supply chain, and enhancing the competitiveness of the industrial supply chain.

We firmly follow the objective and quantitative assessment mechanism and evaluation system. Suppliers of SMIC can only be added to the Company's approved supplier list when they are evaluated to meet relevant qualifications and achieve a satisfactory score.

- the Company's approved supplier list.
- improvement programs and 16 on-site audits.

SMIC achieves a more comprehensive and professional evaluation on suppliers via the Quality System Assessment (QSA). During the reporting period, we conducted 20 on-site supplier audits and held 5 supplier quality management presentations, helping 21 suppliers improve their quality management.

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Distribution of SMIC's raw material suppliers in 2022



Contracted suppliers are scored every six months by SMIC based on QCDSE (Quality, Cost, Delivery, Service, Environment). If any project fails to meet our standards or indicators, the supplier must provide an improvement plan and rectify within a specified time limit. Those who are still lagging behind after rectification will be removed from

For new suppliers, we conduct a multi-level quality improvement assistance according to the criticality/priority. During the reporting period, we completed a total of 3 joint quality improvement programs, 19 continuous quality

### During the reporting period

The performance of SMIC's suppliers was significantly improved, and the proportion of suppliers rated 80 points or above (out of 100 points) reached

# 95.45%

### 2022 Supplier Assessment Results



Note: No suppliers scored below 70 in the 2022 supplier evaluation



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# Strengthening the Resilience of Supply Chain

An adequate supply chain security system is one of the important guarantees for SMIC's supplier management. SMIC allocated part of the purchase volume to manufacturers with relatively safer supply chain as a supporting plan according to our production demands. Meanwhile, with our focus on the continuity and controllability of supply sources, we tried to achieve regional balance between different provinces and cities as well as domestic and foreign manufacturers, to strengthen the stability and security of the supply chain.

#### Improving Suppliers' Construction Safety Enhancing Suppliers Ethical Compliance Awareness

In order to prevent safety accidents together with suppli-SMIC is committed to continuously enhancing the eth-During the reporting period ers, SMIC conducted construction safety training for all ical compliance of suppliers. Suppliers are required The Company conducted contractor operators. Only qualified operators are allowed to enter to conduct self-inspection of their ethical compliance ESH training with a total of the construction site. The training content mainly inmanagement system before submitting it to SMIC's recludes understanding the Company's Environment, Safesponsible department for review, and SMIC will track ty & Health (ESH) policies and rules, the knowledge and the problems found in the specified period for rectifi-23,748 person-times requirements of site construction safety, safety points cation. To minimize hidden dangers and risks, we track for high-risk work, and construction accident cases. The the problems found during the audit until rectification training has effectively improved the capacity of suppliis completed within a specified time limit. ers' operators for safe construction, and also reduced relevant environmental and social risks. **Contractor ESH Training** Unit: person-times







# Low-Carbon Operation

As the urgency of climate change increases, SMIC has been active in tackling environmental challenges. We perform strict management on our environmental performance, continuously optimize our environmental protection management system, and jointly promote green development with all sectors of society on the basis of robust business development. We aim to achieve our goal of green operation by practicing energy-saving projects and using renewable energy, shaping ourselves into a green and low-carbon enterprise.

# **Environmental Protection** Management

SMIC earnestly fulfills its environmental protection duties and complies with relevant environmental protection laws and regulations such as the *Environmental* Protection Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, and Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes, as well as national and local standards.

We have established a sound environmental management system, and set up a professional department to strictly control the possible polluting process in production and operational activities, as well as the generation and discharge of various pollutants. By introducing more environmental protection projects, and performing operation control and management oversight, our environmental protection practices during production process are completed to a high standard, which elevated our corporate environmental performance.



# SMIC Environmental Protection, Safety and Health Policy

In the production and operation of SMIC, we make efficient use of natural resources, put an emphasis on pollution prevention, protect employees, and prevent related accident risks. We have established SMIC Environmental Protection, Safety and Health Policy and take specific measures to fulfill our environmental protection responsibilities.

# **Our commitment:**

• Comply with environmental, safety and health regulations as well as international conventions while meeting customer requirements

- Hold environmental quality improvement and employee health and safety assurance as the primary responsibilities of every supervisor
- Strengthen the prevention and control of accidents, resilience and recovery capabilities

.........

 Implement an on-site environmental protection, safety and health management system involving voluntary groups

• Establish a green industrial chain, implement green production, and provide customers with green products

.........

**Our Measures:** • Formulate and implement environmental protection measures and promote energy conservation and emission reduction projects • Waste classification, collection and recycling • Supervise and manage the diversion and safe disposal of hazardous waste as well as the qualification of waste disposal vendors • Control the content of hazardous substances in products Organize regular environmental protection monitoring and carbon emission verification with result disclosure 



# Tackling Climate Change

In active response to national policies, SMIC tracks and reviews the progress of environmental targets every year. As of the end of the reporting period, the Company was making good progress on its environmental objectives:



Through years of intensive exploration of energy conservation projects, SMIC's GHG emissions per unit of production have been significantly reduced.

Adhering to clean production, SMIC has optimized resource consumption from the source of production, which in turn reduced the generation of waste.

Note: The environmental targets were set with 2010 as the base year and 2030 as the target year.

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The energy consump-The water consump-B tion per unit of protion per unit of production decreased by duction decreased by 30% 40%

> Thanks to the strict management system and active energy conservation practice, SMIC has made outstanding achievements in energy consumption performance.

To improve water efficiency, SMIC continuously explores ways to further optimize water consumption. The overall situation tends to be positive.





During target review, we intend to make flexible adjustments to environmental targets based on our business development and future planning, in combination with evolving industry trends. In the future, we aim to strengthen the management and monitoring environmental targets, and continuing to explore a more effective science-backed target setting method.

By 2030, we will continue to improve the energy management system to enhance energy efficiency.



By 2030, we will further strengthen waste management and reduce waste emission intensity.



- Optimize energy structure by increasing the proportion of renewable energy
- Improve process flows to reduce the energy intensity of production

- Increase the proportion of waste recycling
- Explore innovative and recycled materials to advocate green procurement

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# Framework for Addressing Climate Change

SMIC remains committed to sustainable development and seeks to bring long-term value to all stakeholders. Based on the framework for addressing climate change, we have been promoting energy conservation and emission reduction projects year by year to improve energy efficiency, reduce GHG emissions and address climate change.

Every year, SMIC completes the climate change questionnaire of the Carbon Disclosure Project (CDP), a global environmental information research center, aiming to actively assume our environmental responsibility by disclosing our own environmental performance. We look forward to working with our partners in the ecosystem to achieve the goal set in the *Paris Agreement* of "holding the increase in the global average temperature to well below 2° C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5° C above pre-industrial levels".

#### **Identification of Climate-Related Risks and Climate Change Risk and Opportunity Matrix Opportunities**

SMIC actively responds to the crisis and challenges brought by climate change, and also believes that business opportunities will arise from climate change. With reference to the disclosure framework and recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), we analyzed the possible financial impacts on the Company's operation and development strategy resulted from climate change potential impacts and opportunities from four perspectives: corporate governance, strategy, risk management, as well as metrics and targets. During the reporting period, we reviewed and optimized the climate change risk and opportunity matrix to support the Company's climate-related decision-making and strategies.



42

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# Analysis of Climate-Related Impacts

	Turne of Dialize	Climate Delated Dieko	•	
	i ype of Risks	Climate-Related Risks	• • •	Potential Financial Impacts
		Typhoons	• • • • •	The Company's operations in Shanghai and Shenzhen are may cause power outages and floods, resulting safety acci an increase in operating costs.
		Floods	• • • • • • • • • • • • • • • • • • • •	Global warming will increase water risks, including river flo in Shanghai are at risks of flooding, which will damage th and plants, resulting in financial losses.
	Physical Risks	Droughts	• • • • • •	Our operation in Beijing faces a moderate to high risk of dr stricter control on water resources, which will lead to incre creasing operating costs.
	FTIYSICALKISKS	Extreme precipitation		Extreme precipitation will affect the production and tran Companies need to deploy countermeasures, and operatin
		Rising temperature	• • • • • •	In hot summer, rising temperatures will lead to increased costs.
		Sea level rise	•	Our major operations are currently located in China's no may be threatened by rising sea levels, resulting in operatio

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# SMIC's Countermeasures

e vulnerable to extreme weather such as typhoons, which cidents or suspension of R&D and production, leading to

floods and flash floods. Our production and R&D centers the infrastructure and related facilities of the operations

droughts. Droughts will cause water supply shortage and creased water costs, or even insufficient water supply, in-

insportation processes of suppliers in the supply chain. ing costs may increase.

ed refrigerant demand and possibly increased operating

ortheastern, eastern and southern coastal areas, which tion damages.

SMIC has established a sound environmental emergency plan to identify and review the potential physical risks every year. We have set up an adequate response mechanism and reserved emergency materials in fabs with physical risks. With regular improvement in our response strategies, all functional departments work together to ensure the continuity of production.





# Analysis of Climate-Related Impacts

Type of Risks	Climate-Related Risks	Potential Financial Impacts	SMIC's Countermeasures
	Regulation and requirements for existing products	National and local laws and regulations, as well as emerging policies, may impose more stringent require- ments and supervision on factories and products, which will increase operating costs.	SMIC has established a legal risk identification platform to regularly iden tify changes in emerging laws and policies, timely track the introduction of new laws or regulations, and actively respond to meet compliance re quirements.
	Environmental information dis- closure obligations	With the improvement and implementation of management measures in carbon emissions and carbon trad- ing, countries and regions, as well as stock exchanges and capital markets, have raised requirements for cor- porate environmental information disclosure. It is required for companies to disclose environmental indica- tors. Failure to such disclosure in a timely manner may expose SMIC to compliance risks.	According to the ISO 14064 Greenhouse Gas Emission Inventory System SMIC regularly verifies and calculates its carbon emission inventory even year, and discloses relevant carbon emission information in the annua ESG report.
Transition Risks	Innovation risks in decarboniza- tion technology development	To actively control the carbon emissions of products, it is necessary to enhance the effectiveness of environ- mental protection process development, improve the use of new technologies, and update clean production equipment to meet the demands for low-emission products. This may lead to an increase in operating costs in the short term.	SMIC actively optimizes its own production processes and technologie We have implemented the concept of cleaner production in all fabs an implemented the low-emission production process.
	Change in customer consump- tion preference	Customers tend to choose greener products. If we fail to meet their requirements in sustainability perfor- mance such as energy-saving and consumption reduction, SMIC may face the risk of losing customer, which will lead to revenue decline.	During product design and production process upgrading, SMIC takes energy-saving and consumption reduction into account. We have set up professional department to manage and advance toward our energy-saving and consumption reduction targets, and reviews the targets ever year to achieve low energy consumption and high production efficiency.
	Stakeholders' growing concern about negative feedback	As concepts such as carbon neutrality and sustainable development grow in popularity, customers, investors and other stakeholders are paying more attention to environmental information disclosure. When the infor- mation disclosed falls short of their expectations, the image and reputation of the Company as well as capital market recognition may be adversely affected.	SMIC discloses its ESG performance in the annual report and ESG report We place great importance to environmental performance, and continue to environmental compliance throughout the whole process of operation and production via various environmental management measures.





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# Enabling the Green Industry

Sparing no effort to echo the national strategy of carbon peaking and carbon neutrality, SMIC proactively seeks collaborations in the fields of energy storage and new energy vehicle (NEV) to support these sectors.

# Supporting the NEV Industry

- Set up rapid communication channels with NEV enterprises
- Support enterprises that design automotive grade chips for NEVs
- Establish the Special Testing Center of Automotive Chip Reliability

# Supporting the Energy Storage, Wind Power and Other New Energy Industries

• Scale up cooperation with end-users to advance the R&D of energy storage and inverter





# GHG Emission Management

SMIC has established a GHG emission management system and calculates the GHG emissions of fabs every year in accordance with ISO 14064 Greenhouse Gas Emission Inventory System. We will continue to reduce GHG emissions through various control measures such as optimizing our manufacturing process, and introducing tail gas treatment unit making concrete steps in achieving the target of carbon emission reduction. SMIC's primary sources of emission fall under the following categories:



# During the reporting period, the GHG emissions of SMIC are as follows:

### **Direct GHG Emission**

— Direct GHG Emission(ton CO<sub>2</sub>-eq)



Note: The sources of direct GHG emissions are the direct combustion emissions from fuels such as natural gas and diesel, chemical vapor deposition and fluoride gas emission during dry etching process, organic waste gas emission from combustion, refrigerant gas leaks, wastewater treatment emissions, and pure water treatment emissions, etc. Direct GHG emissions are calculated based on the discharge coefficient and mass balance provided in the 2019 IPCC Guidelines for National Greenhouse Gas Inventories.

# Indirect GHG Emission



Note: The sources of indirect GHG emissions are the emissions from outsourced energy such as electricity, steam, and heat. Indirect emissions are calculated based on the discharge coefficient and mass balance provided in the 2019 IPCC Guidelines for National Greenhouse Gas Inventories.







Adhering to the concept of green operation, we have established energy management teams and carried out various energy projects in energy conservation, emission reduction and renewable energy, aiming to achieve a synergistic advancement between economic gains and environmental benefits. Based on the ISO 50001 Energy Management System, we have set up a three-tier energy management structure, and fully implemented the energy management accountability system in the operation process. The Company formulates energy usage plans and targets every year, and constantly improves the energy efficiency during daily supervision and review.

# **Energy Consumption**

During the reporting period, the total energy consumption of SMIC was 3,376.52 million kWh, and the energy consumption intensity was 13.45 kWh per 8-inch equivalent wafer photomask layer.

During the reporting period, the main energy consumption distribution of SMIC is as follows:

Total Electricity Consumption of SMIC Unit: million kWh

2,501	2,869
2021	2022

Total Natural Gas Consumption of SMIC Unit: km<sup>3</sup>

15,091	16,691	19,418
2020	2021	2022

# Total Steam Consumption of SMIC Unit: thousand tons

302	212	302
2020	2021	2022

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Note: The intensity of electricity consumption shown is per 8-inch wafer produced by SMIC.

Natural Gas Consumption Intensity of SMIC Unit: m<sup>3</sup>/ 8-inch equivalent wafer photomask layer



Note: The intensity of natural gas consumption is per 8-inch wafer produced by SMIC.

### Steam Consumption Intensity of SMIC

Unit: kg/ 8-inch equivalent wafer photomask layer



Note: The intensity of steam consumption is per 8-inch wafer produced by SMIC.





### The Utilization of Renewable Energy – PV **Project at SMOC**

SMIC actively practices green operation by scaling up the usage of renewable energy.

With an 800 kW designed installed capacity, the PV system at SMOC generates 790,000 kWh of electricity on a yearly basis, which can be used to power its own fabs.



# **Green Factory Certification**

SMIC actively practices green operations and places ecology and safety first, and factored in local context during the construction of fabs, wherein many main buildings have obtained green certifications, including:

LEED Gold Certification: SMSC, SMIC Tianjin and SMNC

Three Star Building of the Evaluation Standard for Green Industrial Building (GB/T50878-2013): SMOC was designed according to the standard, SMNC and SMBC has acquired the Three Star Green Industrial Building Certification.



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Summary of Energy Conservation Projects

Investment

# **31.07** million yuan

Annual electricity conservation

3,063,588 kWh

Annual steam conservation

11,194 tons

Annual natural gas conservation

**348,465** m<sup>3</sup>

Annual savings

7.67 million yuan



# Water Resource Management

SMIC actively responds to the risk of water shortage. We strictly require all fabs to measure their water utilization, and rationalize the use of water resources by expanding water sources, improving water efficiency, strengthening wastewater management and promoting various water conservation programs, thereby realizing sustainable operation.

## **Expanding Water Sources**

SMIC makes area-specific adjustments in the water utilization strategies in places where we operate and actively explores diversified water sources. We use a variety of water resources including external water sources (tap water and external reclaimed water), condensate from the air-conditioner and natural water (rainwater and mountain spring water).

# **Improving Water Utilization**

Nowadays, with the linewidth of integrated circuit getting narrowed down, which has resulted to higher cleanliness requirements and greater water demand. Therefore, water utilization has become an important indicator for the environmental performance of the industry. All fabs of SMIC manage production water scientifically in accordance with their departmental management systems, set annual water conservation targets, and formulate water utilization plans for operation based on the targets, striving to maximize water efficiency.

Check water utiliza tion for operation regularly

During the reporting period, the water consumption of SMIC is as follows:

### Total consumption (thousand tons)

Total consumption intensity (ton/8-inch equivalent wafer photomask layer)

Note: The intensity of water consumption is per 8-inch wafer produced by SMIC.



	2020	2021	2022
	14,810	20,619	24,713
t	0.081	0.091	0.088

Summary of Water-Saving Projects

Investment

4.53 million yuan

Annual water saving

150,771 tons

Annual savings

**1.06** million yuan





#### A Snapshot of SMIC: I C the Future Lean Governance for Lasting Stability Sustainable Empowerment for Lasting Success Appendix

### Wastewater Management

We continuously improve the efficiency of sewage treatment by wastewater classification management and secondary wastewater treatment process in strict accordance with relevant discharge laws and regulations such as *Water Pollution Prevention and Control* Law of the People's Republic of China, and Integrated Wastewater Discharge Standard.

We use continuous monitoring devices for water quality and quantity monitoring at the outlets of wastewater treatment facilities in each fab to monitor and upload real-time data. In case of any irregularities, emergency measures will be taken immediately.

In addition, the Company has also taken measures to reduce chemical oxygen demand (COD) and suspended solids that are directly associated with wastewater quality, to reduce the environmental impact of wastewater discharge.

Please see the monitoring data published by SMIC for detailed information: ( ( )

### Wastewater Classification Management

- SMIC adopts classification management system for wastewater produced during its processes, which includes hydrofluoric acid wastewater, acidic and alkaline wastewater, grinding wastewater, ammonia-containing wastewater and so on
- We have established different diversion treatment systems according to the type of wastewater based on the pollutants compositions in wastewater

#### **Wastewater Treatment Process**

- Sewage from each manufacturing equipment will be treated by independent degradation system after being diverted, so as to reduce the pollutants concentration
- Sewage treated by the primary degradation system will go through a recycling and condensing system for reuse

During the reporting period, the wastewater discharge of SMIC is as follows:

	2020	2021	2022	Types of Air Emissions	2020	2021	
Total amount of wastowater discharge (ten thousand tens)	1,316.97	1 706 22	1,977.28	Sulfur dioxide emissions SO <sub>2</sub> (ton)	6	5	
Total amount of wastewater discharge (ten thousand tons)		1,786.33		Nitrogen oxide emissions NOx(ton)	52	108	
Amount of wastewater per wafer photomask (ton/8-inch	0.070	0.070	0.070	VOCs emissions (ton)	24	30	
equivalent wafer photomask layer)	0.072	0.079	0.079	Total air emissions (ten thousand m <sup>3</sup> )	6,023,441	5,505,055	6,2

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# Air Emissions Management

I	n strict accordance with the Environmental Protection
L	Law of the People's Republic of China, Atmospheric
ŀ	Pollution Prevention and Control Law of the People's
ŀ	<i>Republic of China</i> and other laws and regulations, SMIC
ł	has established an air emissions management system
ł	based on various production-related pollution emis-
S	sion standards. We treat air emissions at both the ma-
(	chine level and the plant level to ensure that the air
e	emissions do not exceed the standards and meet rele-
١	vant regulations.

SMIC has engaged third-party agencies to test the air emissions of all fabs according to the relevant requirements of the local government. All the monitoring data are fully disclosed. 🌐



During the reporting period, the air emissions of SMIC is as follows:

Note: The data in 2020 was adjusted retroactively due to changes in the Company's organizational boundaries.









In accordance with Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes and relevant waste disposal laws and regulations, SMIC has established a comprehensive waste management system. We categorize solid waste into general solid waste, hazardous waste, and domestic waste, and strictly control the generation, collection, internal diversion, storage, transportation, utilization, treatment, and other steps involved in waste management to ensure the 100% disposal compliance of all kinds of waste.

The types and definitions of waste are as follows:

#### **General Solid Waste**

Refers to non-hazardous solid waste generated directly or indirectly during the production process, such as water treatment sludge, equipment parts, pipes, cleanroom gloves, wooden boards and waste cartons, and foamed plastics.

#### Hazardous Waste

Refers to waste included in the National Hazardous Waste List, such as acid waste, alkali waste, medical waste, rags contaminated with hazardous chemicals, and waste fluorescent tubes.

#### **Domestic Waste**

Refers to waste generated in daily life, such as beverage packaging, used batteries, waste paper and food residues.

# Source Control

SMIC has established a comprehensive cleaner produc-SMIC conducts strict management on waste disposal tion management system and is committed to minivendors. We require: mizing the potential negative impact of production on humans and the environment.

- We carry out source reduction projects by incorporating waste reduction into our production and operation management strategies, and continuously improve the efficiency of raw materials usage to reduce waste generation.
- We actively explore the recycling of general solid waste to ensure that recyclable materials are fully recycled; For materials that cannot be recycled in fabs, we work with qualified companies with recycling capacity for disposal.

The Waste Generation Data of SMIC:

# Type of Waste

General Solid Waste (ton)

Domestic Waste (ton)

Hazardous Waste (ton)

Total (ton)

Note: The data in 2020 was adjusted retroactively due to changes in the Company's organizational boundaries.

# **Management of Vendors**

- All waste disposal vendors to be accredited by the government.
- All waste disposal vendors to attain a satisfactory score from our assessment before signing contracts.
- Conducting on-site or on-board inspections of vendors.
- Strict implementation of the Waste Transfer Joint Form system in waste storage and transfer with fully standardized waste transfer process.

2020	2021	2022
31,753	41,285	46,141
2,014	2,686	2,075
28,085	47,578	58,268
61,852	91,549	106,484



# Environmental Protection Activities

At SMIC, we believe that "Environmental protection is everyone's responsibility" encourage our employees to actively participate in environmental protection activities. During the reporting period, all departments of SMIC organized environmental protection activities to improve the public environment around us through with our actions.

# World Cleanup Day: The 917 Beach Cleanup Activity

September 17, 2022 is the annual World Cleanup Day. SMIC successfully held the beach cleanup activity in Shanghai Binjiang Forest Park. More than 60 employees and their family members have taken practical actions for public welfare, in an effort to safeguard our planet.

A total of 781kg of marine garbage was cleaned up in this activity.



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# Small Market, Huge Gains

Thrift is a traditional virtue of the Chinese nation. During the reporting period, SMIC organized a second-hand market, which enabled employees to trade idle goods in lower prices. Through this activity, we contributed our share to foster a resource-saving society.





# **Enabling Employee Success**

SMIC firmly believes that employees are the core driving force of our sustainable development. We provide every employee with the freedom and space to develop in a safe and stable workplace that has an equal and diversified working atmosphere. Meanwhile, adhering to the people-oriented philosophy, we care for the well-being of our employees, continue to improve our welfare system, build advanced training systems, and set up various employee communication channels, sparing no effort to respond to employees' expectations for a bright future and draw a beautiful blueprint together.

**Talent Attraction** 

# **Diversity, Fairness, and Inclusiveness**

SMIC strictly abides by the employment laws and regulations, including Labor Law of the People's Republic of China, Labor Contract Law of the People's Republic of China, and the Law of the People's Republic of China on the Protection of Minors, and constantly improves our internal employment systems such as the SMIC Employment Policy, the Employee Recruitment System, and the Implementation Rules of SMIC Campus Recruitment.

We recruit excellent talents extensively from all over the world through diversified recruitment channels, providing employment opportunities for talents with or without disabilities from different countries, ethnic groups, and cultural backgrounds. We firmly believe that a diversified talent pipeline will help us to fuel innovative capacity into our corporate development, improve scientific research efficiency, and to better meet the complex and diverse customer demands, thus driving our business growth.

- Gender diversity: Maintaining workplace gender equality while building talent teams.
- velopment of SMIC.
- **Region diversity:** Our employees are from more than 20 countries and regions around the world.

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• Function diversity: Our employees are categorized into production personnel, sales personnel, R&D personnel, and administrative personnel. The diversity of various functions in each business unit enables the sustainable de-

• Age diversity: We believe that age diversity can lead to beneficial career development for our employees.

# Our employees are from more than

countries and regions around the world



The average age of our employees









ITTER BERIN



owerment for Lasting Success Appendix



The number of new employees recruited from all over the world

7,606

# By the end of the reporting period

The number of full-time employees

21,619

Male employees

13,742 64%

Female employees

7,877

### Data of employment diversity are as follows:









50.0%



**On-Campus Recruitment** 

SMIC attaches great importance to graduates selection. We have been collaborating with major universities to organize on-campus recruitment for many years and have formed a set of virtual recruitment system combining online and offline activities. To facilitate our campus recruitment, we launched the Campus Ambassador program to help students learn more about SMIC during our talent selection. During the reporting period, SMIC has held a total of 9 virtual recruitment sessions, including 7 online and 2 offline sessions. SMIC recruited 2,132 outstanding graduates through on-campus recruitment.



# **Off-Campus Recruitment**

Based on our business development and current human resources assessment, SMIC has formulated a series of recruitment plans for professionals from all walks of life, and developed multiple recruitment methods and channels, including online recruitment, on-site job fairs and professional headhunting services. In addition, we have also developed an internal referral mechanism for high-level talents to boost our high-potential talent pipeline. During the reporting period, SMIC recruited 5,474 outstanding talents through various off-campus recruitment channels.

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Number of online and offline sessions have been held in total

9

Number of campus recruitment ambassador

39

Number of outstanding graduates recruited

2,132

Number of outstanding talents recruited

5,474

Proportion of talents from campus recruitment by education background



# Proportion of talents from campus recruitment by major





# Talent Retention

Employees are the most valuable assets of SMIC. We cherish the efforts and contributions of every employee. By reinforcing the financial incentives in our salary system and building a medium- and long-term incentive and restraint mechanism, we provide employees with competitive remuneration and benefits. We constantly deepen employees' sense of belonging and identity to the Company to retain outstanding talents and enhance the core team cohesion as well as our corporate competitiveness.

SMIC listens attentively to the employee voice, being problem-oriented, and actively reforms relevant systems. During the reporting period, SMIC has introduced various optimization measures such as improving welfare system and working environment, and broadening career development opportunities to better satisfy the demands and expectations of all kinds of employees.

The overall employee turnover rate is 16.94%, details on employee turnover distribution are as follows:

- Employee turnover by region: 16.92% in China, 0.015% in America, and 0.005% in Eurasia
- Employee turnover by gender: 67.7% in male, 32.3% in female
- Employee turnover by age: 66.8% aged 30 and below, 29.2% aged between 30 and 40, and 4.0% aged 40 and above

# **Talent Incentive Mechanism**

# Share Incentive

In order to create a benefit-sharing mechanism between employees and owners, realize the consistency of intere of the Company, shareholders and employees, attract a retain excellent management talents and business bac bone, enhance staff cohesion and company competitiv ness. The Company introduced A-share long-term incent mechanism on the basis of the HKEx Stock Incentive Pl and implements the STAR Market Class B Restricted Ste Incentive Plan in 2021, the aim is to build and continuou improve the comprehensive compensation system, as w as, to motivate and retain the key talents of the Company further stimulate their enthusiasm and creativity, and ensure the achievement of the long-term strategic goa of the Company. The Company's incentive targets inclu senior management, core technical personnel, mide and senior business management, technical and business backbone personnel.

On July 19, 2021, the Company granted 67,535,200 shares to the incentive recipients for the first time, with a total of 3,944 people; On June 21, 2022, we granted 8,115,200 reserved shares to a total of 1,175 incentive recipients. The Company completed the initial grant of a portion of the first vesting period on September 6, 2022.

In order to fully mobilize employees' motivation and retain the core and excellent talents, the Company will continue to establish and improve the medium and long-term incentive and restraint mechanism by increasing positive incentives and implementing salary diversification, so as to effectively attract and retain the Company's excellent talents and enhance the cohesion of the core team and the core competitiveness of the Company.

# **Dedicated Awards**

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To motivate teams and individuals to drive cost optimization and revenue growth by adopting innovative ideas.

# Long Service Employee Incentive

In addition to the souvenirs for employees who have completed 5, 10, 15 and 20 years of continuous service at the Company, SMIC granted specific souvenirs for employees who have served for 20 years in 2022, to enhance their sense of belonging and workplace pride.



# **Employee Communication**

SMIC places a high value on the communication and exchange with employees. We have built various communication channels and feedback mechanisms for employees to express their needs and wants in different situations and encourage them to make suggestions for the development of the Company.





Different types of communication meetings

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2022 Environmental, Social and Governance Repo

During the reporting period, SMIC held several meetings to communicate with different types of frontline staff.

## **Executive Communication Meeting**

In 2022, SMIC fabs together with the headquarter held the Q1 2022 Executive Meeting and the 2021 Business Performance Awards Ceremony to summarize the past year's work, plan and arrange future tasks, and reward excellent groups and employees of the year, encouraging all employees to benchmark with the role models for a high-quality development of SMIC.

# Communication Meeting with Frontline Engineers

In order to enhance the stability of engineers, spark their enthusiasm, and strengthen unity and team cohesion, we held the Wolf Warrior: Communication Meeting with Frontline Engineers. During which, engineers expressed their opinions freely to identify gaps and share ideas regarding the front-line work, so as to lay a solid foundation for the high-quality development of the Company.





# Employee Rights and Interests

SMIC strives to fully protect the rights and interests of employees.

# **Protecting Employee Rights and Interests**

We comply with labor related laws and regulations in the places where we operate, including:

- Labor Law of the People's Republic of China
- Labor Contract Law of the People's Republic of China
- Employment Promotion Law of the People's Republic of China
- Law of the People's Republic of China on the Protection of Women's Rights and Interests
- Special Rules on the Labor Protection of Female Employees
- Law of the People's Republic of China on the Protection of Minors
- Trade Union Law of the People's Republic of China

we have formulated and improved internal management regulations:

- SMIC Identification and Update Procedure of Labor and Human Rights Related Laws and Regulations
- SMIC Employment and Protection Procedure of International Juvenile Employees and Interns
- SMIC Management Procedure of Labor and Human **Rights Objectives**

We have clarified the rights and interests of employees in the Employee Handbook and SMIC's series documents on labor rights. For any violation of employee's rights and interests, we conduct in-depth inquiries with prompt resolution, and summarize experiences to further improve the corresponding systems and management processes.

SMIC established and implemented a labor rights and interest management system based on the principles of Responsible Business Alliance (RBA) and SA8000. After years of experiences accumulated and summarized, this management system has become increasingly developed and sophisticated. We promise and guarantee to provide an equal, healthy and liberal working environment for all employees.

During the reporting period, we conducted target management, identification and update of laws and regulations related to labor rights and interests, risk assessment and preventive measures development, internal auditing, and corrective procedures in sequence, to ensure that SMIC fully complies with the relevant provisions of labor rights and interests. Meanwhile, we communicated labor right requirements to suppliers and periodically reviewed part of our suppliers, striving for a mutual success with our suppliers in protecting employee rights and interests.

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We emphasise:

#### **Free Choice of Occupation**

Adhering to the standing principle of legal and compliant employment, SMIC signs labor contracts with all employees voluntarily, as well as the collective labor contracts with the labor union regularly. We strive to protect the personal information and privacy of our employees and continue to enhance their satisfaction.

#### **Prohibiting Child Labor and Protecting Juvenile**

We do not employ any person under the age of 16 in any circumstance, nor do we assign job that may endanger health or safety to minor employees, including night shift and overtime. We regularly provide health examination for minor employees according to laws.

#### **Ensuring Normal Rest of Employees**

For employees on the integrated hourly system, the maximum number of days the Company can arrange for employees to work is 6 consecutive days and 60 hours per week; for employees on the standard working hours system, the overtime arranged per month shall not exceed 36 hours.

#### **Humane Treatment**

We oppose inhumane treatment including sexual har-SMIC respects and rewards the contribution of every employee, we pay to our employees with competitive salary. The assment, sexual abuse, corporal punishment, mental salary paid to employees shall comply with the provisions of laws and regulations, and clear payroll will be provided to or physical coercion, or verbal abuse, and have formuemployees on time. lated relevant policies to prevent and restrict the oc-At the same time, the Company has created a holistic benefits system for employees. We implemented benefits such as sick currence of such behavior.

### Nondiscrimination

Employees are treated equally regardless of their nationality, race, gender, political party, religious belief, etc.

#### Freedom of Association

The Company respects the rights of employees, including freedom of religion, freedom of association, collective negotiation, and freedom to join the Labor Union.

### **Salary and Welfare**

leave, paid leave, rehabilitation, and physical & mental health care for employees, and paid social insurance such as pension, medical, work-related injury, maternity, and unemployment in accordance with relevant national and local regulations.







SMIC always believes that the shaping and presenting of employees' personal value is an important component of the Company's overall value. We provide employees with established training system, and comprehensive supporting resources. Moreover, we have designed a variety of career paths for employees, including career development paths, rapid development channel, and two-way development channel.

## **Career Development Paths**

Benchmarking with world-class companies for a long time, SMIC has launched and optimized our career ladder system. We have presented complete and clear career paths for employees by continuously improving our five sequences of positions.



# **Rapid Development Channel**

The Company has set up a rapid development program in the technical sequence, aiming to build a rapid development channel, attract high-potential talents, and cultivate a group of high-level technical experts through a targeted training mode.

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# **Two-Way Development Channel**

The Company has established a two-way career development channel for managerial and professional/technical talents, supported by corresponding systems and incentive measures, enabling employees to grow together with SMIC.



### Vertical Development Channel - Promotion

The Company provides promotion opportunities for employees with excellent performance and ability, and offers incentives in terms of salary, bonus, and development opportunities.

# Horizontal Development Channel - Transfer

The Company publishes internal recruitment information on the intranet according to its business needs for employees to apply based on their personal career plans, interests, and strengths. The horizontal development channel can fully mobilize their initiative and enthusiasm, and optimize the Company's human resources allocation.



## **Career Development Booster**

SMIC values talent training. We have introduced diversified talent training solutions based on different business demands and employees' potential, and built a complete internal training mechanism, providing a solid guarantee for a shared, high-quality development between employees and the Company through career development boosters such as leadership training courses, online learning platforms, and further education programs.

- Training types: new employee orientation, management training for frontline managers, and capacity development programs for middle and senior managers
- Multi-dimensional content: corporate culture, professional skills, general skills, and management and leadership development training
- Multiple training styles: face-to-face teaching, on-the-job training, job rotation, study group, reading group, E-Learning, knowledge base, etc.

#### Internal Training Mechanism

During the reporting period, the Company provided employees of different positions a variety of training programs for an all-round upskilling, including expertise and teamwork, to enable better employee development.

- Setting Sail Program for Junior Supervisor: Help junior supervisors in their transition of roles and mindset, as well as enhance their managerial skills through online courses and in-person workshops.
- Technical Trainee Program: Through a four-stage training scheme over three years, the program nurtures outstanding fresh graduates into young technical backbone, fostering a solid talent pool.
- Senior Backbone: Offer online courses on general competencies for employees to learn independently and flexibly to improve the overall occupational literacy among employees.
- Frontline Team Leader: Provide frontline team leaders with production line upskilling to enhance managerial and collaborative capabilities across frontline teams.
- Production Assistant: Help production assistants to adapt into their teams quickly through "WAAT –We are a Team" bootcamps and mentor training camps, enhancing managerial and collaborative capabilities across frontline teams.
- Fresh Graduates: Organize training camps for fresh graduates to imbue them with the cultural values of our Company, and strengthen their teamwork and general abilities.

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# As of the end of the reporting period, the employee training data of SMIC is as follows:

The number of courses provided by the Company

Per employee training hours

hours

**Course duration** 

825,700 hours

Total employee training attendance

349,687 person-times

0	29.2 h
verage training hours of female employees	
0	26.8 h
verage training hours of administra- ve personnel	
· •	41.2 h
verage training hours of production person	inel
	16.4 h
	10.4 11
verage training hours of sales personnel	
0	36.5 h

Average training hours of male employees

Average training hours of R&D personnel

Training coverage

100%



44.9 hours

ours

ours

ours

ours

ours

### **Online Learning Platform**

To enable employees to learn at any time, the Company has established an online E-learning platform. In 2022, we continued to upgrade and optimize the course content and training system of the platform, to adapt to the development of employees in the new era. By the end of the reporting period, the online platform covered 2,401 courses, including knowledge such as semiconductor technology.

# **Knowledge Management System**

SMIC has established a Knowledge Management System (KMS), which allows employees to compile and release knowledge documents according to system rules and requirements. KMS also has bonus points to encourage employees to contribute to knowledge management. This system facilitates the exchange and learning of professional knowledge, playing a positive role in the transmission and accumulation of expertise and skills.

By the end of the reporting period, 19,845 articles were published on KMS, with a total of 209,629 views by employees, recording a year-on-year increase of 4.5% and 9.6% respectively.



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# **On-the-job Further Education Program**

**University-Enterprise Cooperation** 

To maintain the continuity of high-level talent pipeline, the Company cooperates with colleges and universities to build a joint training base for high-level talent in engineering doctorate, bridging higher education with companies' demands for talents.

#### **Further Education**

The Company provides employees with on-the-job education opportunities and platforms, cooperates with colleges and universities to set up undergraduate courses to meet employees' on-the-job learning needs, and offers tuition subsidies to qualified employees to support their further education.

During the reporting period, a total of 635 SMIC employees participated in further education of degree courses.

The number of online platform courses

2,401

The number of articles published on KMS

19,845

The number of views by employees

209,629

Total number of employees participated in education





At SMIC, occupational health and safety of employees is the topmost priority in our business management.

We strictly abide by the Law of the People's Republic of *China on the Prevention and Control of Occupational* Diseases, the Work Safety Law of the People's Republic of China and other laws and regulations related to occupational health and safety, and constantly improve the health and safety security system. At present, we have obtained ISO 45001 Occupational Health & Safety Management System certification.

# Creating a Safe Workplace

By organizing safety drills and holding safety meetings, SMIC strives to embed safety awareness in every employee's mind to avoid potential workplace safety hazards. Meanwhile, the Company has established a closed-loop safety risk identification and control system covering the plant construction, equipment installation and plant operation phases.



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# **Fire and Earthquake Evacuation Drill**

Natural disasters and safety accidents often occur in autumn and winter. SMIC Shanghai organized the 119 Fire Safety Month activity and earthquake evacuation drill. This activity enabled the staff to master the correct evacuation strategies, enhanced their awareness of disaster prevention and earthquake evacuation, and further improved the Company's ability to identify potential risks, fix vulnerabilities and respond to emergencies in densely populated places such as fabs and office zones.

# **Safety Month Activities**

Safety Month is a series of safety promotion and drill activities held by SMIC for many consecutive years. June 2022, SMIC celebrated its annual Safety Month, which helped employees enhance their safety awareness and safety operation skills through dynamic and static programs. The dynamic programs include trainings on self-contained breathing apparatus (SCBA), fire extinguishing, and using waterejectors; the static programs include safety knowledge competition, safety culture photography, and slogan display.



The number of employee participated in occupational health examination

7,905

The coverage percentage of occupational physical examination and health record

100%

The number of employee participated in general physical examination

5,534

Participants of disaster relief drill

Participants of evacua-

6,098 person-times tion drill

Participants of surprise drill

005 2,005 person-times

Participants of safety training

07 666 32,000 person-times











# Strengthening Workplace Health

To prevent accidents at workplace and reduce occupational hazards, SMIC strictly complies with the provisions of the Law of the People's Republic of China on the Prevention and Control of Occupational Diseases, and monitors and analyzes the occupational hazards annually to ensure that workplace hazards are lower than the national standards.

According to relevant regulations, in addition to the general physical examination for all employees every year, SMIC also organizes occupational health examination for employees who are exposed to occupational hazards. During the reporting period, 7,905 employees participated in occupational physical examination, and the coverage rate of physical examination and health files was 100%; 5,534 employees took general physical examination.

# Safeguarding Employee Physical Health

The Health Center of SMIC is equipped with complete medical equipment and experienced healthcare professionals to provide employees with free health consultation and emergency medical assistance.

SMIC devoted tremendous efforts on health promotion and medical facility investment. During the reporting period, SMIC Health Center received 24,623 health consultations. The Company has carried out 31 offline educational activities and issued 66 articles on health education online, with a total of approximately 2,000 participations, significantly improving employees' awareness of "Prevention is key to good health".

# Popularizing CPR Methods and Improving **First-Aid Ability**

To improve employees' first aid awareness, the Company sets cardiopulmonary resuscitation (CPR) as a regular training program in all fabs and offers public training courses on CPR and emergency response in our Health Center. Meanwhile, the Company arranges a certain proportion of employees (including engineers, manufacturing assistants, and secretaries) to participate in the practical training of CPR every year and holds CPR competition during the Safety Month.

In 2022, each fab carried out CPR training courses in hybrid form. A total of 22 sessions were organized with about 2,645 participants, of which 607 participated in the CPR competition.



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# Adding Medical Support Equipment

During the reporting period, the Company also added relevant medical facilities in all fabs, including 30 first aid kits, 21 chemical emergency kits, and 17 automatic external defibrillators (AEDs).

As of the end of the reporting period, there were 141 first aid kits, 166 chemical emergency kits and 17 AEDs in the fabs, an increase in quantity compared with 2021.



The number of health consultation

The number of offline educational activities

24,623

31

The number of articles on health education issued online

The cumulative number of participants approximately

66

The number of CPR sessions

The number of participants

22

2,64

The number of added first aid kits

The number of added chemical emergency kits

30

The number of added AEDs

17





# **Caring for Employee Mental Health**

"Not only we care about your achievements in work, but also your well-being". SMIC has made proactive investment to care for employee mental health by developing and exploring more diverse psychological counseling methods on top of the original services, to better support employee mental health and relieve their stress.

At present, SMIC has set up multiple mental health support channels for employees, providing them with 24-hour consultation hotline, psychological training, psychological knowledge education, psychological assessment, and other related content both offline and online.

# Online

- We launched a "psychological assessment and health" webpage, posted 63 psycho logical articles, and provided 20 psychometric tests.
- We published a total of 9 issues of "Voice of the Mind" articles to all.

Release psychological articles

Provide psychological test

63

Q

Published a total of "Voice of the Mind" articles to all

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# Offline

- We organized a total of 127 psychological training and counseling courses, group salons and reading sessions on psychology, covering more than 6,000 employees.
- We opened a library featuring psychological publications in our headquarters, providing 112 mental health-related books for employees to borrow and organized reading activities.
- We invited employees to join "mental health examination" activities for the first time, with a total of 1,804 participants.
- We organized a Mental Health Month activity with the theme of "Mindful Power to Fuel Vitality for SMIC" in all fabs.
- We held an online psychological knowledge contest, with 2,332 employees participating, and distributed more than 3,000 brochures on professional psychological knowledge.

Offline activities reached more than employees









# Wonderful Life of Employees

SMIC has set up a Labor Union, formulated relevant management systems, and adopted democratic management under applicable national laws to safeguard employee rights. The Labor Union is composed of the chairman, vice chairman, Union members and representatives of all departments. Employees are voluntary to join the Labor Union.

Taking the Labor Union as a democratic communication channel, the Company cares for employees' lives and seeks for a harmonious employment relationship, and encourages employees to actively participate in scientific innovation, labor competition, excellent employee selection and other activities. To enrich employees' life after work, the Company provides them with platforms to showcase talents, and organizes various cultural and sports activities. Meanwhile, the Labor Union also offers employees with various benefits on their birthdays, Dragon Boat Festival, Mid-Autumn Festival and Spring Festival.

# Feeling the Spring, Celebrating the Spring Festival and Enjoying the Human Touch

SMIC Labor Union held appreciation activities in all fabs to present employees who stayed at fabs during Spring Festival with gift packages. On the night of New Year's Eve, we organized luck draw and other activities for the staff on duty to express our sincerest New Year blessings on behalf of the Company.



### 2022 Online Autumn Games

Themed as "Setting Sail-Sports for Future", SMIC held an online autumn games. We customized a variety of sports activities tailored to local conditions, including standards competition, racing, body-shaping competition and the "Road to SMIC Prosperity". The standards competition includes six common fitness activities, providing various choices for players. The participation of this sports games has reached a record high with its novel forms and special significance.



# **The Carnival Parade**

To enrich employees' life after work and relieve their stress from work and life, the Company organized a series of carnival activities with the them of "Shining SMIC - Brilliant Colors".



# You are Roses, the Queen of Flowers

To create a pleasant International Women's Day for our female employees on March 8, the Labor Union held the Goddess Day activity to express blessings at all SMIC fabs, fostering a festive atmosphere of respecting and understanding women.





65



# **Corporate Family Day**

In order to build a communication platform between the Company and employees and their families, and to further enhance the sense of belonging and workplace pride of the employees, SMIC Shenzhen Labor Union held an open day themed as "Love in the Family, Love in SMIC" for the families of the employees, to let them come to SMIC and know about our working environment, feeling the love of the SMIC family.



# The Voice of SMIC

We sing for youth; we sing for dreams. In order to promote corporate culture, create a lively atmosphere across all fabs, and enrich the spare time of employees, we held the Voice of SMIC Competition, which showcased the positivity and enthusiasm of employees, sparked their enterprising spirit and voiced the main melody of the Company.



# Intangible Cultural Heritage Appreciation and Handicraft Activities

On the Mid-Autumn Festival, the Company held the intangible cultural heritage appreciation and handicraft activities, where employees experienced the cultural customs of the traditional Chinese festivals while working together to make heritage franc filigreed Mid-Autumn Moon Rabbit coasters and moon paper carving lamps.









# **Convenient and Caring Living Services and** Facilities

SMIC actively practices the idea of "Building Fabs into Homes" to provide relevant support services for employees to fully improve their living conditions.

# **Comfortable Living Quarter**

# **Staff Accommodation in Shenzhen**

Shenzhen fab offers 707 apartments and 765 beds with an occupancy rate of 87%.

In 2022, in order to improve the happiness index of accommodated employees, we added 522 beds in the City Residence and King Residence National Dormitory, and the current occupancy rate is 96%. At the same time, 32 self-service laundry machines were put into the original dormitories for employees' convenience.



# **Beijing Living Quarter**

In Beijing, based on the original apartments, SMIC provides self-built and leased accommodation for our employees.

At present, about 3,900 people are housed in SMIC (Beijing) Living Quarter, including 232 original apartments, 135 newly-built apartments, 371 one-bedroom apartments and 1,969 collective dormitories. Currently, 1,740 people are housed in the dormitories with an occupancy rate of 88.37%.

To meet the needs of accommodation of more employees, we rented 2,888 beds in Yongkang Apartment, Youth Apartment and Blue-Collar Apartment, accommodating 2,595 people with an occupancy rate of 89.85%.





# **Shanghai Living Quarter**

To meet employees' accommodation needs in Shanghai, we have increased the apartments and beds based on the existing SMIC (Shanghai) Zhangjiang Living Quarter and SMIC (Shanghai) Tangzhen Living Quarter.

At present, there are 319 family apartments for employees in SMIC (Shanghai) Zhangjiang Living Quarter, with an occupancy rate of 91.97%.

The Phase I of SMIC (Shanghai) Tangzhen Living Quarter has 1,087 family apartments, with an average annual occupancy rate of 90.2%, and 1,241 beds, with an occupancy rate of 69.6%.

Since its opening in August 2021, the Phase II of SMIC (Shanghai) Tangzhen Living Quarter has 816 family apartments, with an occupancy rate of 91.1%. In 2022, 2,736 new dormitory beds were provided, with an occupancy rate of 63.2%.



# **Tianjin Living Quarter**

SMIC (Tianjin) Living Quarter offers 166 apartments and 875 beds for 1,300 employees with an occupancy rate of 92%.

To improve the living environment of employees in Tianjin Site, SMIC actively seeks high-quality dormitories and has rented 108 suites (216 beds in total) from Hui Zhi Center Talent Apartments, with an occupancy rate of 90.05%, which is widely welcomed by employees.





67

## **Delicious Canteen**

SMIC has set up canteens of different scales according to the number and demands of employees in different fabs and provides monthly catering subsidies to employees. In addition, the Company is continuously optimizing the supervision and inspection mechanism to ensure that the canteen contractor provides high-quality services as well as healthy and safe food for employees.

# **Dish Innovation**

To enrich the dining options for employees, the Company's canteen has made bold innovations in dishes and collected opinions from employees via new-dish-tasting activities. In 2022, the canteen in Shenzhen site launched 4 specialty food stations, held 4 new-dish-tasting activities, and introduced 46 new dishes in total to delight the diverse appetites of employees.



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# **Free Shuttle Buses**

SMIC has set up shuttle bus lines between fabs and living quarters to provide employees with free shuttle services.

# **Shuttle Buses**

SMIC is actively replacing fuel shuttle buses with new energy vehicles (NEV), saving the commuting cost and time of employees, while reducing the carbon emissions of personal commuting and promoting environmental practice of low-carbon travel.







# Caring for Society at SMIC

SMIC actively participates in public welfare and education assistance activities to deliver positivity to society. We continue to invest in the health and education for adolescents and give back to society with practical actions. Meanwhile, we encourage employees to participate in community services, devote great efforts to develop diversified public welfare activities, spreading the care and love of SMIC.

During the reporting period, 14,703 SMIC employees joined volunteer services, logging more than 40,000 hours of volunteer services.

# Caring for the Health of Youngsters

Youth is the future of a country and the hope of a nation. SMIC constantly cares for the health of youngsters. We have initiated and participated in a number of philanthropic healthcare programs to help youngsters recover from illness.

During the reporting period, SMIC continued to carry out programs such as the SMIC Liver Transplant Program for Children, contributing to liver transplantation, cochlear implant and medical assistance for congenital heart disease sufferers.

A total of **6.47** million yuan has been invested

Helped more than **119** patients



Sincere Service Low-Carbon Operation Enabling Employee Success Caring for Society at SM



# SMIC Liver Transplant Program for Children

In April 2013, SMIC launched the SMIC Liver Transplant Program for Children, which, together with the China Soong Ching Ling Foundation and Renji Hospital, provides assistance to children suffering from liver disease who have financial difficulties in their families. Together with SMIC employees, enterprises in the integrated circuit industry and people from all walks of life, SMIC helps children with liver disease get rid of the illness, continuing to deliver our value to society.



芯肝宝贝计划



"Good Deeds for the 10<sup>th</sup> anniversary of SMIC Liver Transplant Program for Children" Memorial Book

# SMIC Liver Transplant Program for Children - A Ten-Year-Long Relay with Love

In the past decade, from the launch to its gradual development, SMIC Liver Transplant Program for Children has attracted more and more corporate and individual endorsement, and helped more and more children. In recent years, the challenging external environment posed great challenges to SMIC, yet our enthusiasm and dedication on social welfare undertakings have remained unchanged.

By the end of the reporting period The number of participants in the Program has exceeded

The donation amount has reached nearly

20,000



# SMIC Liver Transplant Program for Children - 10<sup>th</sup> Anniversary and Donation Ceremony in 2022

On December 7, 2022, the 10<sup>th</sup> anniversary of our SMIC Liver Transplant Program for Children and the 2022 Annual Donation Ceremony was held in Renji Hospital. SMIC, together with enterprises in the industry, society partners, and our employees, donated 5.71 million yuan, which was the highest amount in years, through the China Soong Ching Ling Foundation.



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Participated enterprises nearly

200



children

Assisted underprivileged







During the reporting period, SMIC continued to cooperate with the China Soong Ching Ling Foundation, and helped underprivileged children with liver, hearing impairment and congenital heart disease with a number of medical institutions, to guarantee the healthy growth of children.

# Liver Transplantation Program for **Underprivileged Children**

To help more underprivileged children in need of liver transplantation and regain a healthy life, we have set up a special fund to support their liver transplantation at Renji Hospital Affiliated to Shanghai Jiaotong University.

During the reporting period



SMIC donated

320,000 yuan

The number of children assisted

8

# **Cochlear Implant Program**

To enable more patients with severe hearing impairment to hear the voice of the world, we support the needy patients to take cochlear implant surgery in People's Hospital of Dali Bai Autonomous Prefecture.

During the reporting period



SMIC donated

**419,400** yuan

The number of patients assisted

21

# Congenital Heart Disease Program

Congenital heart disease is the result of abnormal heart development during fetal life, and most of them can be treated surgically. SMIC, together with the top cardiologists from Shanghai Children's Medical Center in China, supported to restore the health of congenital heart disease patients from needy families.

During the reporting period



SMIC donated

**16,900** yuan

The number of patient assisted




## Delivering Warmth and Kindness

On our journey of corporate development, SMIC also actively participates in public welfare activities, shares developmental benefits with society, and makes continuous efforts for a shared development.



#### **Delivering Love via Book Donation**

During the reporting period, the Company raised about 600 books by actively organizing book-donation and established a reading corner at the Yanping Village-Level Primary School of Xuanwo Town in Hanyin County, Ankang City, Shaanxi Province.

This year marks the 4<sup>th</sup> anniversary of this Program since 2019. SMIC has assisted 8 primary schools and institutions to set up reading corners and donated more than 4,300 books in total.



#### **Blood Donation Activity**

SMIC actively promoted and organized employees to participate in blood donation activities. During the reporting period, a total of 221 people donated blood in SMIC's Shanghai fab, with a donation volume of 44,200ml, fully demonstrating the altruism of our employees.



Giving Tree is a charity project organized by Shanghai Charity Federation and Community Center Shanghai since 2003. The project has engaged many caring companies to support poor students in schools around Shanghai through the donation of warm clothes, school supplies and other charity gift bags.

During the reporting period, SMIC, as one of the participating companies, donated 10,000 yuan to the project to support the procurement of charitable supplies.











Teaching quality is the lifeline of the sustainable development of a school. By taking students as the center and curriculum as the carrier in the schools we set up, the Company is cultivating more outstanding talents for society.

SMIC School continues to optimize its education system, constantly deepens teaching research, and strictly controls the all-round teaching quality, striving to provide life-long benefit for students through education. SMIC School also cooperates with many renowned universities in China to set up several scholarships to subsidize impoverished students to finish schooling, encourage them to forge ahead and realize their ambitions.



#### Shanghai SMIC Private School

Founded in September 2001, Shanghai SMIC Private School has developed into a 15-year system private school integrating education from kindergarten to high school. Shanghai SMIC Private School adheres to the people-oriented principle and believes that every student is endowed with great potential and entrusted with important responsibilities. Therefore, the school attaches great importance to the personality development of students and provides them with a wide variety of extracurricular activities to help them explore their own specialties.

For many years, the school has been awarded many honors, such as National Excellent Private Primary and Secondary School, Featured National Normal School, Featured National Advanced School, Featured Project School, and KingLead China International School Practitioner on Teenager Research.

As of the end of the reporting period Total number of students

3,391

The faculty and staff of the school

554

(including 154 foreign teachers, 140 of them were primary and secondary schools' teachers).

#### **Cultivating Students with SMIC Philosophy**

Adhering to the philosophy of "Character First, Pursuit of Excellence, Caring for the World, Happy Growth", Shanghai SMIC Private School promotes students' allaround development of morality, intelligence, physique, aesthetics and skills through various campus activities.

#### Nationality Day Activities in SMIC's **Primary Division**

On September 28, 2022, the Curriculum Integration Center of the Primary Division held the Nationality Day activity. Under the guidance of the teachers, students participated in various folk activities, experienced the customs and practices of various ethnic groups, and enjoyed the charm of cultural diversity in China.



#### **Reading Week Activities**

The 3<sup>rd</sup> week of October 2022 is the annual Reading Week of the Primary Division, which includes reading exploration, biographical reading, poem appreciation, reading with "Kuyou", and vocabulary parade. The intriguing reading atmosphere with different themes each day allows students to immerse themselves in reading, helps them develop reading habits, improves their understanding of reading, and enhances the fun of reading for them.







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## Middle School Sports Games

The School Games is a traditional autumn event of Shanghai SMIC Private School. In early October 2022, the Games was held as scheduled. With active participation, the students displayed their youthful vigor on the field. The School Games includes competitions such as sprints, long-distance run, long-distance jump, high jump, and tug-of-war. The faculty also participated in the games with referee and logistics support.

#### Annual Drama Show

On November 18, 2022, the students from the International Division's middle school and the Going Abroad Program presented a humorous and wonderful drama show, which was adapted from When Bad Things Happen to Good Actors by Ian McWethy and Jason Pizzarello, in the SMIC Theater. The professional performance of the students were fascinating, which lit up the audience with smiles.







## **Beijing SMIC Private School**

Founded in the autumn of 2005, Beijing SMIC Private School provides complete education from kindergarten, primary school, middle school to high school. The school has a large number of excellent foreign teachers and students from more than ten countries and regions. The atmosphere of cultural diversity has created an international learning environment.

Over the past decade, the school has provided education for students based on the educational philosophy of "Character First, Pursuit of Excellence, Caring for the World, Happy Growth", and developed featured courses combining Chinese and Western elements for whole-person education. The school is committed to cultivating students' abilities of independent exploration and lifelong learning, respecting students' individual development, encouraging them to develop a global vision and critical thinking, and cultivating world citizens with a sense of social responsibility.

As of the end of the reporting period

Total number of students

The faculty and staff of the school

2,845

422



Adhering to the goal of "Cultivating key abilities and promoting comprehensive development", Beijing SMIC Private School helps students develop habits of success, such as continuous hard-working and committing to progress, and constantly explores the good-to-great methods and paths. Beijing SMIC Private School has created a home-school environment filled with love and inclusiveness through diversified recreational activities.

### The "Flame of SMIC Cup" Liberal Arts **Knowledge Contest**

In March 2022, the Middle School Division of Beijing SMIC Private School held the second season of the "Flame of SMIC Cup" Liberal Arts Knowledge Contest. During this "contest of heroes", students not only expressed their enthusiasm for knowledge, but also presented the quality of self-learning and teamwork. The integration of different disciplines has expanded the vision and improved the comprehensive quality of the students.



#### **100-Day Celebration of Primary School Entrance**

In March 2022, the first-grade students of Beijing SMIC Private School ushered in their own festival - the 100-Day Celebration of Primary School Entrance. During these 100 days, they have transformed from kindergarten children into primary school students, underwent changes and experienced growth. Accompanying by patient teachers, the students have better adapted to the primary school life. Their family members have also been touched by the growth of the children. During the transition from kindergarten to primary school, many parents have seen the significance of SMIC's educational philosophy.

#### Carnival for the Chinese Year of the Tiger

The new semester of the Chinese year of the Tiger began in February 2022. At the opening ceremony, Beijing SMIC Private School prepared various activities with the theme of tiger for students, including riddles, calligraphy, painting, photographing, games, singing, acting, clay sculpture, handwork, imitation, and praising. At the beginning of the new year, the school prepared an interesting carnival for the Chinese year of the Tiger for students via a number of high-quality elective courses such as music, art, science and sports.











# Appendix

# About This Report

#### Introduction

This is the Annual Environmental, Social and Governance (ESG) Report (hereinafter referred to as "This Report") released to the public by Semiconductor Manufacturing International Corporation (hereinafter referred to as "SMIC", "the Group", "we" or "the Company"). This Report discloses the ESG performance of SMIC in 2022 based on the principles of openness and transparency.

#### **Reference Standards**

This Report is prepared in accordance with the Environmental, Social and Governance Reporting Guide and relevant provisions of *Listing Rules* issued by the Stock Exchange of Hong Kong Limited, and the Rules Governing the Listing of Stocks on STAR market, with appropriate reference to the Global Reporting Initiative (GRI) *Sustainability Reporting Standards* (GRI Standards), the *China Corporate* Social Responsibility Reporting Guide (CASS-ESG 5.0) of the academic division of Economics of the Chinese Academy of Social Sciences, the *Corporate Social Responsibility (CSR) Guide for China's Industrial Enterprises and Industrial* Associations of the China Federation of Industrial Economics (CFIE), SJ/T 16000- 2016 - Guidance on Social Responsibility of Information and Communication Technology In*dustry* of the China Electronics Standardization Association (CESA) and the main principles of ISO 26000:2010 - Guidance on Social Responsibility by the International Organization for Standardization (ISO).

#### **Reporting Scope**

The reporting scope of this Report includes the subsidiaries and major holding companies of Semiconductor Manufacturing International Corporation, which is consistent with the scope of the Annual Report. For ease of expression, the "country", "Chinese Mainland" and "the government" in this Report refer to the People's Republic of China and its administrative organs.

#### **Reporting Period**

The reporting period of this Report is from January 1, 2022 to December 31, 2022. To make this Report more readily understandable, some content and data includes prior and/or subsequent years.

#### **Release Cycle**

This Report is an annual report, which is usually released in the first quarter of the year subsequent to the reported year.

# Description of Report Preparation and Data Source

Members of the ESG Committee served as editors for this Report, while each functional department provided ESG-related business information and data. The Company's ESG Office organized and edited the data, which was then ◆ About This Report ◆ Summary of ESG Performance ◆ Index of Indicators ◆ Vision of the Future ◆ Risk Warning ◆ Feedback Form

reviewed and confirmed by members of the ESG Committee.

The financial data quoted in this Report are from the 2022 consolidated financial statements, which have been independently audited by Ernst & Young Hua Ming. Other information and data are mainly from relevant internal statistical reports or documents of the Company. The currency amounts of financial statements data included in this Report are measured in USD, the currency amounts of non-financial statements data included in this Report are measured in RMB if there is no special instruction.

#### **Confirmation and Approval**

This Report was confirmed by the management and approved by the Board of Directors on March 28, 2023.

#### **Report Release**

This Report is released in both paper and electronic edition including Chinese (simplified and traditional) and English versions. To browse the electronic version of this Report, please visit the website of Semiconductor Manufacturing International Corporation.

#### **Contact Information**







# Summary of ESG Performance

		Figure			
	Performance Indicator	tor Unit 2020 2021 2022			
Economic	Revenue	Billion USD	3.91	5.443	7.273
	Net profit attributable to shareholders of the listed Company	Billion USD	0.716	1.702	1.818
	R&D expenses	Million USD	677	639	733
	Number of employees	Person	17,354	17,681	21,619
	Proportion of female employees	%	40	39	36
	Labor contract signing rate	%	100	100	100
	Employee training coverage rate	%	100	100	100
	The average trainning hours completed per	Hour	16.9	29	39
	employee Number of work-related fatalities occurred in the	Descar	0	0	0
	past three years	Person	0	0	0
	Lost days due to work injury	Day	1,080	517	232
Social	Annual number of new occupational diseases	Case	0	0	0
	Cumulative number of occupational diseases	Case	0	0	0
	Times of safety training	Time	770	808	930
	Number of safety training participantsNumber of safety production accidents (according	Person-time	68,594	98,765	92,666
	to national standards)	Time	0	0	0
	Amount of social donations	10 thousand yuan	1,676	912.5	1,646.6
	Employee volunteer hours	Hour	11,126	13,049	40,987
	Cumulative number of patents applied	Piece	17,300	17,980	18,799
	Accumulative number of patents granted	Piece	11,778	12,467	12,869

Note: The measurement of economic performance complies with the requirements of International Financial Reporting Standards

◆ About This Report ◆ Summary of ESG Performance ◆ Index of Indicators ◆ Vision of the Future ◆ Risk Warning ◆ Feedback Form



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## HKEx Environmental, Social and Governance Reporting Guide

ESG KPIs	KPIs Description	Disclosure Chapter				
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.	Environmental Protection Management				
KPI A1.1	The types of emissions and respective emissions data.	Wastewater Management Air Emissions Management Solid Waste Disposal				
KPI A1.2	Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tons) and where appropriate, intensity (e.g. per unit of production volume, per facility).	GHG Emission Management				
KPI A1.3	Total hazardous waste produced (in tons) and where appropriate, intensity (e.g. per unit of production volume, per facility).	Solid Waste Disposal				
KPI A1.4	Total non-hazardous waste produced (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Solid Waste Disposal				
KPI A1.5	Description of emissions target(s) set and steps taken to achieve them.	Tackling Climate Change				
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.	Tackling Climate Change Solid Waste Disposal				

◆ About This Report ◆ Summary of ESG Performance ◆ Index of Indicators ◆ Vision of the Future ◆ Risk Warning ◆ Feedback Form

ESG KPIs	KPIs Description	Disclosure Chapter
Aspect A2	Use of Resources	
General Disclo- sure	Policies on the efficient use of resources, including energy, water and oth- er raw materials. Note: Resources may be used in production, in storage, transportation, in buildings, electronic equipment, etc.	Energy Management Water Resource Management
KPI A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	Energy Management
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Water Resource Management
KPI A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them.	Tackling Climate Chang
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them.	Tackling Climate Chang Water Resource Management
KPI A2.5	Total packaging material used for finished products (in tons) and, if applicable, with reference to per unit produced.	Summary of ESG Performance
Aspect A3	The Environment and Natural Resources	
General Disclo- sure	Policies on minimizing the issuer's significant impacts on the environment and natural resources.	Environmental Protecti Management
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources, and the actions taken to manage them.	Environmental Protecti Management





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	ESG KPIs	KPIs Description	Disclosure Chapter
	Aspect A4	Climate Change	
	General Disclo- sure	Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	Tackling Climate Change
	KPI A4.1	Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	Tackling Climate Change
	B. Social		
	Aspect B1	Employment and Labor Practices	
	General Disclo- sure	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, an- ti-discrimination, and other benefits and welfare.	Talent Attraction
	KPI B1.1	Total workforce by gender, employment type, age group and geographical region.	Talent Attraction
	KPI B1.2	Employee turnover rate by gender, age group and geographical region.	Talent Retention
	Aspect B2	Health and Safety	
	General Disclo- sure	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.	Care for Employees
	KPI B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	Summary of ESG Performance

◆ About This Report ◆ Summary of ESG Performance ◆ Index of Indicators ◆ Vision of the Future ◆ Risk Warning ◆ Feedback Form

ESG KPIs	KPIs Description	Disclosure Chapter
KPI B2.2	Lost days due to work injury.	Summary of ESG Performance
KPI B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored.	Care for Employees
Aspect B3	Development and Training	
General Disclo- sure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities. Note: Training refers to vocational training. It may include internal and external courses paid by the employer.	Career Development
KPI B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	Career Development
KPI B3.2	The average training hours completed per employee by gender and employee category.	Career Development
Aspect B4	Labor Standards	
General Disclo- sure	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 labor.	Employee Rights and Interests
KPI B4.1	Description of measures to review employment practices to avoid child and forced labor.	Employee Rights and Interests
KPI B4.2	Description of steps taken to eliminate such practices when discovered.	Employee Rights and Interests
Aspect B5	Supply Chain Management	
General Disclo- sure	Policies on managing environmental and social risks of the supply chain.	Supply Chain Manageme



















ESG KPIs	KPIs Description	Disclosure Chapter		ESG KPIs	ESG KPIs KPIs Description
KPI B5.1	Number of suppliers by geographical region.	Supply Chain Management		Aspect B7	Aspect B7 Anti-corruption
KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored.	Supply Chain Management		General Disclo- sure	
KPI B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	Supply Chain Management			Number of concluded legal cases regarding corrupt practices brought against
	Description of practices used to promote environmentally preferable			KPI B7.1	KPI B7.1the issuer or its employees during the reporting period and the outcomes of the cases.
KPI B5.4	products and services when selecting suppliers, and how they are implemented and monitored.	Supply Chain Management		KPI B7.2	KPI B7.2 Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.
Aspect B6	Product Responsibility			KPI B7.3	
	Information on: (a) the policies; and	Innovative Research and Development		Aspect B8	Aspect B8 Community Investment
General Disclo- sure	(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.	Information and Data Security Customer Service Quality Management		General Disclo- sure	communities where the issuer operates and to ensure its activities take into
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Quality Management		KPI B8.1	KPI B8.1 Focus areas of contribution (e.g. education, environmental concerns, labor needs, health, culture, sport).
KPI B6.2	Number of products and service related complaints received and how they are dealt with.	Customer Service		KPI B8.2	KPI B8.2 Resources contributed (e.g. money or time) to the focus area.
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights.	Innovative Research and Development			
KPI B6.4	Description of quality assurance process and recall procedures.	Quality Management			
KPI B6.5	Description of consumer data protection and privacy policies, and how they are implemented and monitored.	Information and Data Security			

◆ About This Report ◆ Summary of ESG Performance ◆ Index of Indicators ◆ Vision of the Future ◆ Risk Warning ◆ Feedback Form





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## GRI Standards Guide

Semiconductor Manufacturing International Corporation has reported the information cited in			DisclosureIssues/Items	Title of Disclosure Item	Chapter Index	
Statement of Use	this GRI content indes for the period from January 1, 2022 to Dec to the GRI Standards.	cember 31, 2022 with reference	Stakeholder engageme	Stakeholder engagement		
CDI 1 Hard	CDI 1. Es un detien 2021		2-29	Approach to stakeholder engagement	ESG Governance	
GRI 1 Used	GRI 1: Foundation 2021		<b>GRI 3: Material Topics</b>	3 2021		
DisclosureIssues/Item	s Title of Disclosure Item	Chapter Index	3-1	Process to determine material topics	ESG Governance	
			3-2	List of material topics	ESG Governance	
GRI 1: Foundation 2			3-3	Management of material topics	ESG Governance	
GRI 2: General Discl			GRI 201: Economic Pe	erformance 2016		
The organization and 2-1	d its reporting practices Organizational details	About SMIC	201-1	Direct economic value generated and distributed	ESG Performance Highlight in 2022	
2-2	Entities included in the organization's sustainability reporting	About This Report	201-2	Financial implications and other risks and opportunities due to climate change	Tackling Climate Change	
2-3	Reporting period, frequency and contact point	About This Report	201-3	Defined benefit plan obligations and other retirement plans	Employee Rights and Interest	
Activities and worke	rs		GRI 205: Anti-corrupt	ion 2016		
2-6	Activities, value chain and other business relationships	About SMIC		Communication and training about anti-corruption policies	Compliance and Ethics	
2-7	Employees	Talent Attraction	205-2 and procedures		Compliance and Ethics	
Governance			205-3	Confirmed incidents of corruption and actions taken	Compliance and Ethics	
2-9	Governance structure and composition	Corporate Governance	Environment			
2-12	Role of the highest governance body in overseeing the management of impacts	ESG Governance	GRI 301: Materials 202		Summary of ESG	
2-13	Delegation of responsibility for managing impacts	ESG Governance	301-1	Materials used by weight or volume	Performance	
2-14	Role of the highest governance body in sustainability report- ing	ESG Governance	GRI 302: Energy 2016			
Strategy, policies and	d practices		302-1	Energy consumption within the organization	Energy Management	
2-23	Policy commitments	ESG Governance	302-3	Energy intensity	Energy Management	
			302-4	Reduction of energy consumption	Energy Management	

Semiconductor Manufacturing International Corporation has reported the information cited in			DisclosureIssues/Items	Title of Disclosure Item	Chapter Index
Statement of Use	this GRI content indes for the period from January 1, 2022 to Dec to the GRI Standards.	cember 31, 2022 with reference	Stakeholder engagement		
CDU1Used			2-29	Approach to stakeholder engagement	ESG Governance
GRI 1 Used	GRI 1: Foundation 2021		<b>GRI 3: Material Topics</b>	2021	
DisclosureIssues/Item	s Title of Disclosure Item	Chapter Index	3-1	Process to determine material topics	ESG Governance
			3-2	List of material topics	ESG Governance
GRI 1: Foundation 2			3-3	Management of material topics	ESG Governance
GRI 2: General Disc			GRI 201: Economic Pe	rformance 2016	
The organization and 2-1	d its reporting practices Organizational details	About SMIC	201-1	Direct economic value generated and distributed	ESG Performance Highlight in 2022
2-2	Entities included in the organization's sustainability reporting	About This Report	201-2	Financial implications and other risks and opportunities due to climate change	Tackling Climate Change
2-3	Reporting period, frequency and contact point	About This Report	201-3	Defined benefit plan obligations and other retirement plans	Employee Rights and Interest
Activities and worke	rs		GRI 205: Anti-corrupti	ion 2016	
2-6	Activities, value chain and other business relationships	About SMIC		Communication and training about anti-corruption policies	Compliance and Ethics
2-7	Employees	Talent Attraction	205-2 and procedures		<sup>5</sup> Compliance and Ethics
Governance			205-3	Confirmed incidents of corruption and actions taken	Compliance and Ethics
2-9	Governance structure and composition	Corporate Governance	Environment		
2-12	Role of the highest governance body in overseeing the management of impacts	ESG Governance	GRI 301: Materials 201		Summary of ESG
2-13	Delegation of responsibility for managing impacts	ESG Governance	301-1	Materials used by weight or volume	Performance
2-14	Role of the highest governance body in sustainability report- ing	ESG Governance	GRI 302: Energy 2016		
Strategy, policies an	-		302-1	Energy consumption within the organization	Energy Management
2-23	Policy commitments	ESG Governance	302-3	Energy intensity	Energy Management
			302-4	Reduction of energy consumption	Energy Management

◆ About This Report ◆ Summary of ESG Performance ◆ Index of Indicators ◆ Vision of the Future ◆ Risk Warning ◆ Feedback Form





DisclosureIssues/Items	Title of Disclosure Item	Chapter Index				
GRI 303: Water and Effluents 2018						
303-1	Interactions with water as a shared resource	Water Resource Management				
303-4	Water discharge	Water Resource Management				
303-5	Water consumption	Water Resource Management				
GRI 305: Emissions 20	16					
305-1	Direct (Scope 1) GHG emissions	GHG Emission Management				
305-2	Energy indirect (Scope 2) GHG emissions	GHG Emission Management				
305-4	GHG emissions intensity	GHG Emission Management				
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Air Emissions Management				
GRI 306: Waste 2020						
306-1	Waste generation and significant waste-related impacts	Solid Waste Disposal				
306-2	Management of significant waste-related impacts	Solid Waste Disposal				
306-3	Waste generated	Solid Waste Disposal				
Society						
GRI 401: Employment	2016					
401-1	New employee hires and employee turnover	Talent Retention				
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Employee Rights and Interests				
GRI 403: Occupational	GRI 403: Occupational Health and Safety 2018					
403-1	Occupational health and safety management system	Care for Employees				
403-2	Hazard identification, risk assessment, and incident investigation	Care for Employees				
403-3	Occupational health services	Care for Employees				

◆ About This Report ◆ Summary of ESG Performance ◆ Index of Indicators ◆ Vision of the Future ◆ Risk Warning ◆ Feedback Form

DisclosureIssues/Items	Title of Disclosure Item	Chapter Index			
403-5	Worker training on occupational health and safety	Care for Employees			
403-6	Promotion of worker health	Care for Employees			
403-8	Workers covered by an occupational health and safety management system	Care for Employees			
403-9	Work-related injuries	Summary of ESG Performa			
403-10	Work-related ill health	Care for Employees			
GRI 404: Training and	Education 2016				
404-1	Average hours of training per year per employee	Career Development			
404-2	Programs for upgrading employee skills and transition assistance programs	Career Development			
GRI 405: Diversity and	Equal Opportunity 2016				
405-1	Diversity of governance bodies and employees	Corporate Governance Talent Attraction			
GRI 406: Non-discrimi	nation 2016				
406-1	Incidents of discrimination and corrective actions taken	Employee Rights and Intere			
GRI 408: Child Labor 2	016				
408-1	Operations and suppliers at significant risk forincidents of child labor	Employee Rights and Intere			
GRI 409: Forced or Compulsory Labor 2016					
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Employee Rights and Inter			
GRI 416: Customer Hea	alth and Safety 2016				
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Quality Management			



# Vision of the Future

As the new round of technological revolution and industrial change accelerated worldwide, opportunities and challenges are intertwined. SMIC strives to build the most competitive products and services, becoming a top-tier high-quality, innovative and trusted IC manufacturer in the world.

SMIC is still challenged by a complex external environment and multiple difficulties. In addition, in order to facilitate the national "Carbon peak and carbon neutrality" strategic goal, SMIC adheres to the green development strategy, seizes market opportunities, and continues to promote the sustainability of society along our journey of corporate development.

In 2023, we will continue to pursue sustainable development by upholding the philosophy of "Caring for people, the environment and society" while maintaining business growth, fulfill our social responsibilities, and push forward our corporate sustainable development. While continuing to operate in compliance with laws and regulations, SMIC is committed to:

Continuously strengthening close cooperation with customers and other stakeholders, and striving to grasp the pace of production expansion for mutual benefit and sustainable growth.

Adhering to compliant operational international cooperational anchored in the Chinese Mainle to serve customers worldwide.

◆ About This Report ◆ Summary of ESG Performance ◆ Index of Indicators ◆ Vision of the Future ◆ Risk Warning ◆ Feedback Form



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Accelerating low-carbon energy
conservation projects, improving
innovation in environmental technologies,
and promoting the green transition of
the Company.

Reinforcing the awareness of corporate social responsibility, giving back to society, and actively participating in public welfare projects.







## **To Readers:**

The Report mainly summarizes the Company's ESG performance over the past year, and some sections may contain forward-looking or aspirational statements. Such statements, which are included in "Letter from the Chairman", "Vision of the Future" and the policy overview in each chapter, are SMIC's forecasts of future events based on the current situation and estimates based on its best judgment, and should not be used as a primary basis for investment. These statements are inherently subject to known or unknown risks and uncertainties, including, but not limited to, risks in geopolitics, supply chain, customer, R&D and production, the semiconductor industry cycle and market, order or judgment of pending litigation, intellectual property litigation common to the IC industry, macroeconomic conditions, and currency exchange rate fluctuations.

In addition to this Report's contents, readers or investors should primarily consider other documents disclosed by SMIC in real-time to the HKEx and the SSE. Other unknown or unpredicted risk factors may also adversely affect SMIC's future performance or development. The forward-looking or aspirational statements do not reflect events occurring after the date of release of the Report, and SMIC assumes no liability for the contents of such forward-looking or aspirational statements, except as required by applicable laws and regulations.

◆ About This Report ◆ Summary of ESG Performance ◆ Index of Indicators ◆ Vision of the Future ◆ Risk Warning ◆ Feedback Form

Semiconductor Manufacturing International Corporation March 2023







This is SMIC's 2022 Environmental, Social and Governance (ESG) Report released to the public. To continuously improve our ESG management and ability to fulfill social responsibility, we would love to hear your comments and suggestions. We sincerely request your assistance in answering the questions listed in the feedback form, and sending it back to us by Email, post and online response.

1. What do you think of the SMIC ESG Report in general?	4. Do you think this Report can reflect SMIC's significant economic, social, environmental and corporate govern- ance impacts?
🗆 Good 🛛 🗆 Fairly good 🖓 Average 🖓 Poor	🗆 Yes 🛛 To some degree 🗌 No 🖓 I don't know
•••••••••••••••••••••••••••••••••••••••	•••••••••••••••••••••••••••••••••••••••
2. How often would you like SMIC to disclose ESG reports?	5. How accurate and complete do you think the infor- mation disclosed in this Report is?
🗆 Annually 🛛 Semi-annually 🗌 Quarterly	□ High □ Fairly high □ Average □ Relatively low □ Low
•••••••••••••••••••••••••••••••••••••••	•••••••••••••••••••••••••••••••••••••••
3.What issues in the Report concern you the most?	6. What aspects of the Report do you think need im- provement?
Regulatory compliance Risk management	□ Layout □ Data type □ Issues covered
Confidential information protection	□ References
Product quality control	
Climate change and GHG management	
Occupational safety and health	
□ Customer service and satisfaction □ Others	

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<ul> <li>About This Report</li> <li>Summary of ESG Performance</li> </ul>	•	Index of Indicators	٠	Vision of the Future	•	Risk Warning	•	Feedback Form
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Your comments and suggestions on SMIC's ESG work as well as the Report are welcome here. Please scan the QR code with your mobile phone and evaluate online.







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