

Halo Microelectronics Co., Ltd.

ESG REPORT 2022

-POWER FOR BETTER LIFE-



-POWER FOR BETTER LIFE-



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About This Report

This report represents a comprehensive view of the efforts made by Halo Microelectronics Co., Ltd. ("Halo Microelectronics", "the Company" or "we") and its investment holding companies in respect to environmental, social and governance ("ESG") in 2022 to enhance communication and engagement with stakeholders and respond to concerns and expectations.

Reporting Period

The period covered by this report starts from January 1, 2022 to December 31, 2022. Some information provided in this report may cover the year 2023 as necessary.

Reporting Scope

Unless otherwise indicated, the organizations covered by this ESG report include Halo Microelectronics and its holding companies.

References

This report is prepared in strict compliance with relevant guidelines set forth in Guidelines No. 1 of the Shanghai Stock Exchange for the Self-Regulatory Supervision for Listed Companies - Standardized Operation by Shanghai Stock Exchange (SSE), the GRI Standards by Global Reporting Initiative (GRI), and The Guide for Business Action on the SDGs (SDGs).

Data Source

Unless otherwise indicated, all information and data referenced in this report are based on the official documentation, statistical reports, financial report, relevant public documents, etc., of Halo Microelectronics, and the ESG information on the basis of statistics and audit by the Company. Unless otherwise indicated, all monetary amounts are listed in RMB for this report. The Board of Directors of the Company warrants that this report contains no inaccurate records, misleading statements or major omissions.

This report is released in Chinese and English respectively. The Chinese version shall prevail in case of any discrepancies found between them.

Access to the Report

The Chinese and English versions of this report are available for download at the website of SSE (www.sse.com.cn) and the website of the Company (www.halomicro.cn).

For any further inquiries or suggestions on this report and the Company's ESG work, please contact us via:

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Message From Chairman



As the year 2022 marks the 10th anniversary of the establishment of Halo Microelectronics, we have witnessed an extremely important milestone in Halo Microelectronics' development — the Company's successful public listing on the Shanghai Stock Exchange Science and Technology Innovation Board (SSE STAR Market) in 2022.

With its aspiration and innovative spirit derived right from the Silicon Valley, Halo Microelectronics started its business in 2012, and has been constantly evolving despite various hardships. Halo Microelectronics has efficiently risen to the top among the various challenges in the analog chip sector, dominated by intense competition and monopolistic oligopoly, with a seemingly endless supply of opportunities. The development of Halo Microelectronics can be compared to the convergence of trickles towards the ocean, despite the numerous obstacles and hindrances along the way, with indomitable persistence and bold courage. Halo Microelectronics finally emerged successful after progressively intensified accumulation over the ten years. Halo Microelectronics has managed to undermine the monopolistic market by industry tycoons through specific segmentation of its businesses into sectors including DC/DC, fast charger for lithium battery, super-fast charger, interface protection and signal switching and claimed its strong presence among ruthless competitions with internationally famous brands.

In consideration of the complex and variable nature of the global situation within recent years, Halo Microelectronics has been constantly practicing its mission of "making life better with green energies", and socially presenting its business philosophy characterized by "gaining customer trust, ensuring employee satisfaction, achieving shareholder expectations, eliciting positive commendation from the society, and creating a mutually beneficial situation for customers, employees, shareholders, and society". In the meantime, Halo Microelectronics specializes in the R&D of high-performance analog chips and continues to increase its R&D input in the consumer electronics field such as mobile phones and automotive electronics field. The Company has established a cutting-edge R&D and management team with top minds from international backgrounds and enhanced its core competitiveness by successfully developing an array of high-performing chip products, and has received support and high-level recognition from many major domestic and international clients.

The Company has also been proactively responding to national development strategies while pursuing innovation-oriented development. During the 20th CPC National Congress in 2022, the concept of Chinese-style modernization was introduced, which emphasizes the coexistence of humanity and nature in harmony. The congress also stressed the need to accelerate the construction of a new development pattern, prioritize high-quality development, and promote advanced, intelligent, and green development of the manufacturing industry. Following the philosophy of the new development pattern, which emphasizes domestic circulation and positive interaction between domestic and international circulation, the Company has been investing equal efforts in environment, society

and governance, actively responding to climate change and its impacts by adopting sustainable business models, developing safe, efficient, and reliable power management chips and solutions, and building inclusive, safe, resilient, and sustainable cities and human settlements. By setting ESG strategic goals and working together with enterprises around the globe, Halo Microelectronics will contribute to the achievement of the sustainable development goals outlined in The 2030 Agenda for Sustainable Development by the United Nations.

The clearer your knowledge, the more resolute your actions will be. The road ahead is long and full of obstacles, yet we will reach the destination with our unremitting efforts. Halo Microelectronics has been vigorously practicing ESG philosophy by fully reflecting green environmental protection in its routine operation and office-specific businesses and training for the employees. Halo Microelectronics respects the individuality and differences of its employees, creating a harmonious, equal, and collaborative working environment that enhances cohesiveness and emphasizes the joint growth of the company and its employees. It consistently executed comprehensive reliability testing on every newly developed individual product specific for all of its customers, and has established rigid quality control and reliability system to provide high-performance and high-quality analog IC products. Through collaboration with other organizations, the company seeks to achieve a win-win situation and strives to create social value for the company, its employees, shareholders, and society. It pursues sustainable development by rationally allocating talent, technology, funding, and information resources to maintain its core competitiveness in both domestic and international markets and establish its brand image of sustainable development.

The simplest truths are often the greatest, and the most resounding sounds are often the quietest. Halo Microelectronics will continue to forge ahead in the market segment of analog chips to become an international-leading enterprise. At the same time, guided by the ESG strategy, Halo Microelectronics will open the page on a great new chapter of "green energies" and fulfill the desire for "making life better".

Halo Microelectronics Co., Ltd. Message
TAO HAI

ABOUT HALO MICROELECTRONICS

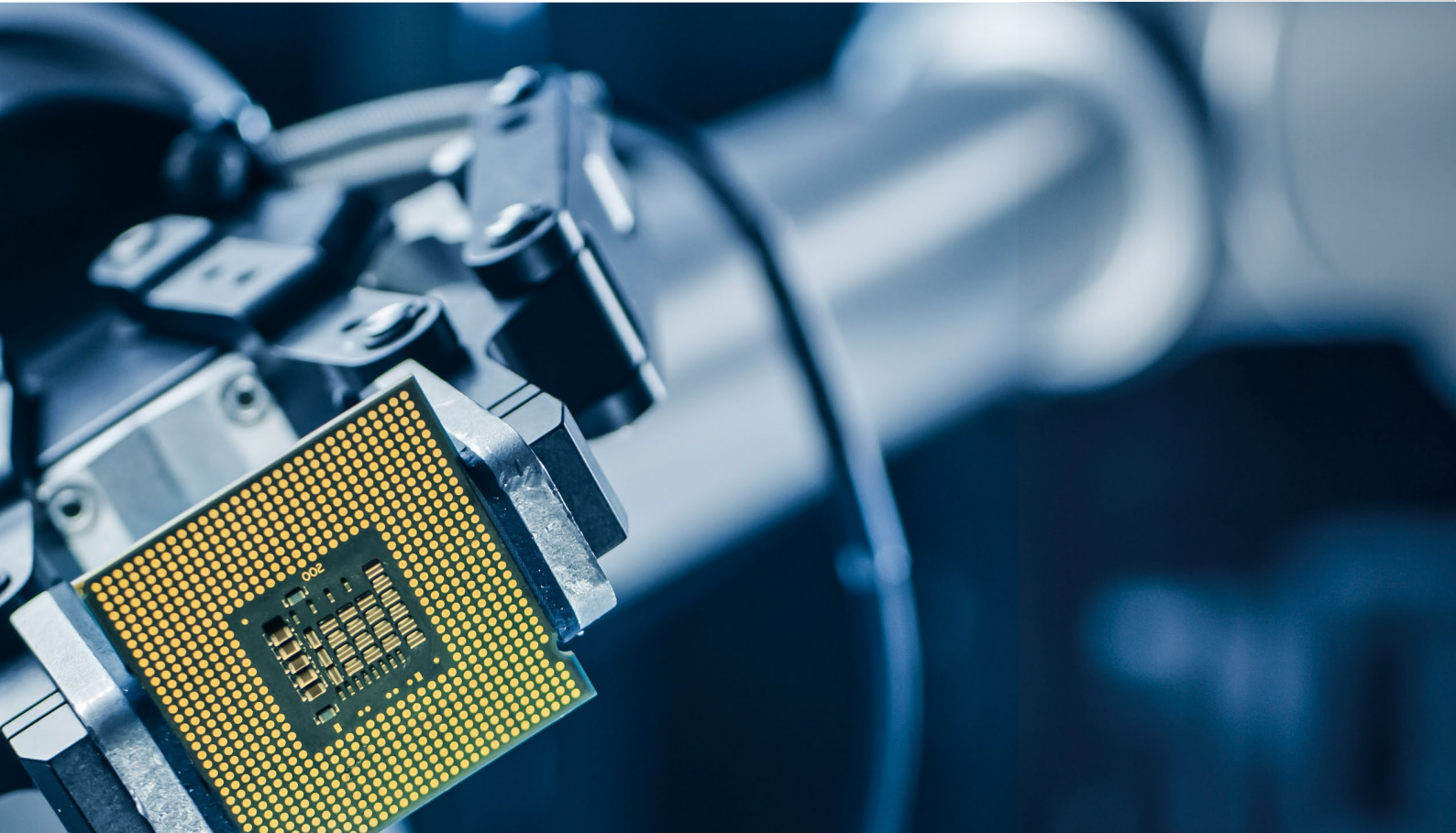
- Company Profile
- History
- Corporate Culture
- Business Overview
- Honors & Awards
- ESG Achievements

Listed in the SSE STAR Market on January 21, 2022

Stock Code: 688173.SH

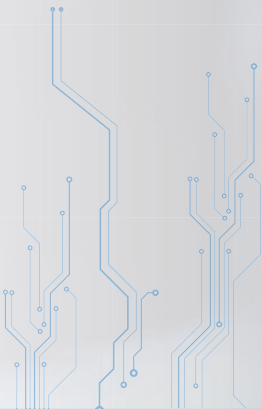
A cutting-edge R&D and management team with top minds from international backgrounds, developing an array of high-performing chip products with

high efficiency, high precision and high reliability.



Company Profile

Founded in 2012, Halo Microelectronics Co., Ltd. (hereinafter referred to as “the Company”) was listed in the SSE STAR Market on January 21, 2022, with the stock code 688173.SH. It is one of the leading domestic suppliers of chips in power management and signal chain. The Company mainly specializes in the R&D, design and sales of analog integrated circuit products including chips in power management and signal chain. The Company has established a cutting-edge R&D and management team with top minds from international backgrounds and has successfully developed an array of high-performing chip products with high efficiency, high precision and high reliability. The representative products of DC/DC chips, super-fast charger chips by the Company have performances that are highly comparable to those of similar products from both domestic and international leading manufacturers, receiving extensive satisfactory recognition from many major well-known domestic and overseas clients.



History

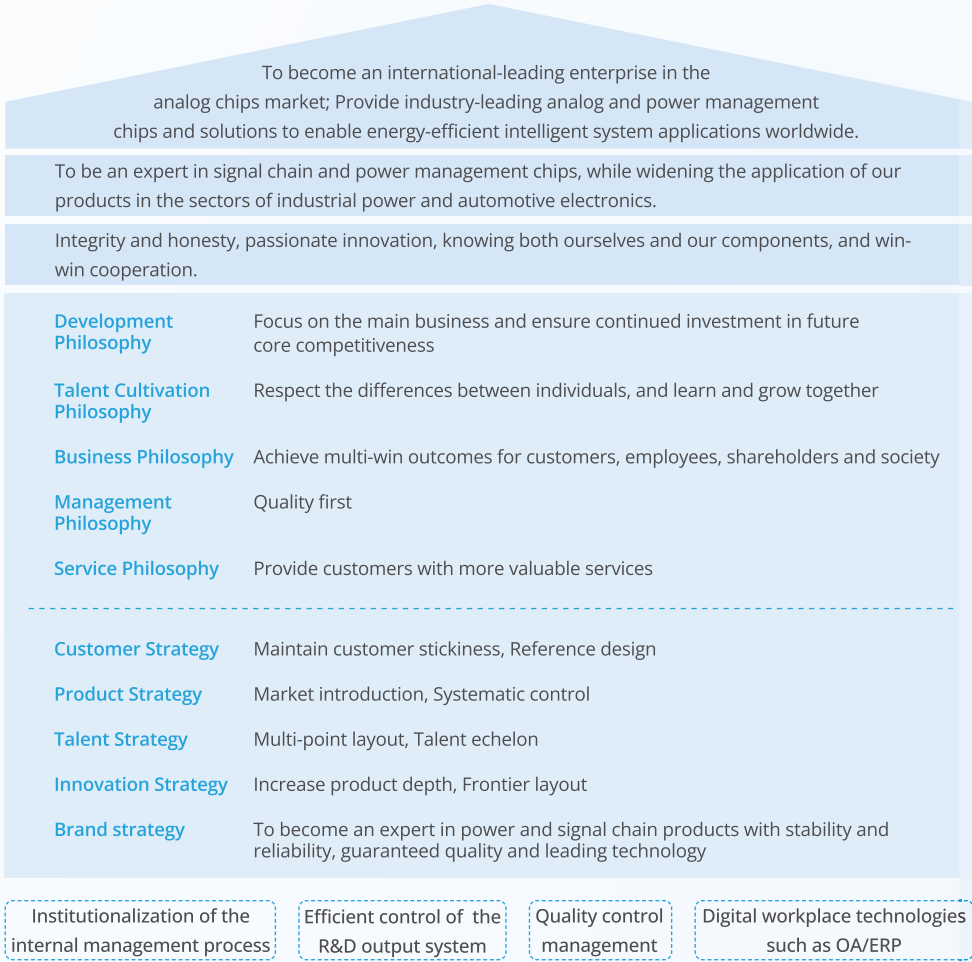
2012	The Company was established.
2014	The very first switching charger chip HL7005 developed by the Company was officially launched on the market.
2015	<ul style="list-style-type: none">■ The industry-leading switch-based buck converter chip was launched and included in the reference design of Qualcomm Snapdragon's 810 platforms in the United States.■ The Company efficiently established its status as a top supplier of “China-made fast charger” products with the excellent performance of lithium battery fast charger chip HL7005 together with its all-round and timely provision of technical services.■ The automotive switching buck converter chip was included in the reference design of Qualcomm's intelligent cockpit vehicle platform in the United States.
2017	Wireless charger chip was included in Qualcomm's reference design.
2018	<ul style="list-style-type: none">■ The automotive charger chip was included in the supply chain of Kia and Hyundai Motor in South Korea.■ The Company successfully passed the ISO 9001 quality system certification, better escorting superior operational management by the Company.
2019	<ul style="list-style-type: none">■ The very first domestic audio and data signal switching chip was launched and mass-produced by domestic premium brand mobile phone manufacturers.■ The super-fast charger chip—a high-voltage charge pump product was innovatively launched and was exclusively supplied for use in Huawei's Mate30 flagship handset, marking the release of high-voltage charge pump charger for the first time globally.■ Our products were successfully included for use in the supply chain of Transsion.
2020	Our products were successfully included for use by clients such as MTK, Xiaomi, OPPO and Honor.
2021	Our products were successfully included for use in the supply chains of Samsung, Vivo and Audio in Germany.
2022	<ul style="list-style-type: none">■ The Company was registered with the SSE (Shanghai Stock Exchange) STAR Market; Stock Code: 688173.■ The Company was accepted as a member of the JC-40 Committee under JEDEC and it will execute in-depth collaboration with industry counterparts in the joint development and formulation of technical specifications for next-generation integrated circuit pertinent to chips for power management and power devices.■ The automotive-grade chip for power management has been successfully used in automobile brands such as XPeng, Hongqi, AITO and Changan Auto.



Corporate Culture



Making life better with green energies!



Keeping the core advantages, constantly surpassing ourselves.

Mission

Vision

Position

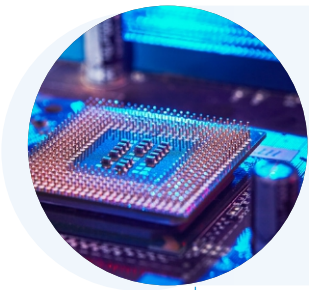
Core Value

Organizational Philosophy

Core Strategy

Basis

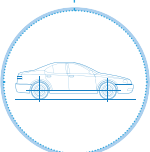
Business Overview



As one of the leading domestic enterprises in the design of semiconductors and integrated circuits, the Company specializes in the R&D, design and sales of analog integrated circuits including chips in power management and signal chain. The main products supplied by the Company are analog integrated circuits including chips for power management and signal chains in the consumer electronics and automotive electronics fields. The current product series includes DC/DC chip, a super-fast charger chip, a lithium battery fast charger chip, a interface protection and signal switching chip, a voice coil motor-driven chip etc., all delivering outstanding performances like high efficiency, superior precision and incredible reliability.



In the consumer electronics field such as mobile phones, the products developed by the Company have been well recognized by major chip platform manufacturers like Qualcomm and MTK, and they have been extensively used in consumer electronic products by brands such as Samsung, Xiaomi, Honor, OPPO, Vivo, Transsion, TCL, Google and Logitech, covering a variety of mobile intelligent terminal devices including medium-and high-end flagship models.



The automotive electronics field is considered one of the top-priority sectors for product supply by the Company. The plan for automotive-grade chips by the Company was first started with Qualcomm's 820 automotive-grade recreational platforms, then the automotive-grade DC/DC chips were officially supplied to the Kia series of Hyundai in Korea through YuraTech in 2018, followed by official supply to Audi in Germany in 2021. As of now, the automotive-grade products developed by the Company have been used in automobile brands in various countries like China, Germany, Japan and Korea, manifesting its preliminary plan-specific results in the automotive electronics field. The automotive-grade chip for power management independently developed by the Company was in good compliance with the AEC-Q100 specification, and its DC/DC chip has been included in the reference design of Qualcomm's global automotive-level platform, this product has been additionally used in the vehicle models by automobile brands such as Audi, Hyundai, Kia, XPeng, Hongqi, AITO and Changan Auto.

Halo Microelectronics will diversify its product range and further upgrade its current products with strong support from its technical advantages, and relevant clientele-based accumulation, to widen the applications of the products, thus enhancing the Company's overall competitive edge. The Company will specifically formulate highly detailed plans for its chip products in segmented sectors including power management, interface protection and signal switching, and further expand sectors like voice coil motor-driven chip products; in addition, it will develop a more targeted plan for the automotive electronics field based on its current consumer electronics and automotive electronics application fields while continuing to maintain the products' compliance with the AEC-Q100 specification, extend its business to communications and storage fields and constantly create new sources for increasing revenues.

Honors & Awards

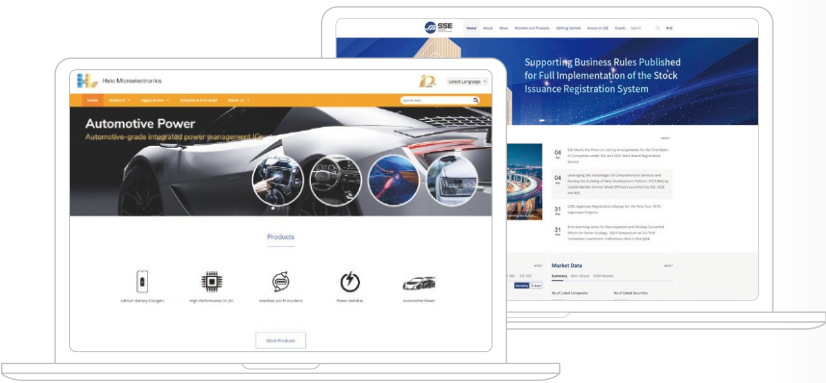


- November 2012 ● Entrepreneurial Talents Team under the Lanhai Talents Program (Class A)
- 2014 ● Third Prize of the 3rd China Innovation & Entrepreneurship Competition (Foshan Division in Guangdong) and the 2014 "Lingnan Angel Cup" Science Innovation and Entrepreneurship Competition
- August 2014 ● An Outstanding Enterprise in the 3rd China Innovation & Entrepreneurship Competition (Guangdong Division) and the 2nd "Pearl River Angel Cup" Science Innovation and Entrepreneurship Competition
- August 2015 ● An Outstanding Enterprise in the 4th China Innovation & Entrepreneurship Competition (Guangdong Division) and the 3rd "Pearl River Angel Cup" Science Innovation and Entrepreneurship Competition
- December 2015 ● Winner Prize of Enterprise Group Finals for Electronic Information Industry in the 4th China Innovation & Entrepreneurship Competition (Guangdong Division) and the 3rd "Pearl River Angel Cup" Science Innovation and Entrepreneurship Competition
- November 2016 ● An Outstanding Enterprise in the 5th China Innovation & Entrepreneurship Competition (Guangdong Division) and the 4th "Pearl River Angel Cup" Science Innovation and Entrepreneurship Competition
- December 2016 ● Bronze Award in the 8th Governor's Cup Industrial Design Competition
- March 2021 ● A Benchmark Enterprise for High-quality Development of the Manufacturing Industry in 2021 in Nanshan District, Foshan
- May 2021 ● A Characteristic Enterprise with Specialization, Delicacy, Feature and Innovation in Foshan
- December 2021 ● A New High-tech Enterprise in Guangdong
- June 2022 ● An Enterprise under Cultivation in the Incubation Program for "10+, 100+, 1000+" Industrial Enterprises in 2022 in Nanshan District
- August 2022 ● The Company was awarded the "2022 Most Innovative Listed Company on STAR Market" by China STAR Market.
- December 2022 ● An Innovative Small and Medium-sized Enterprise in Guangdong in 2022

ESG Achievements

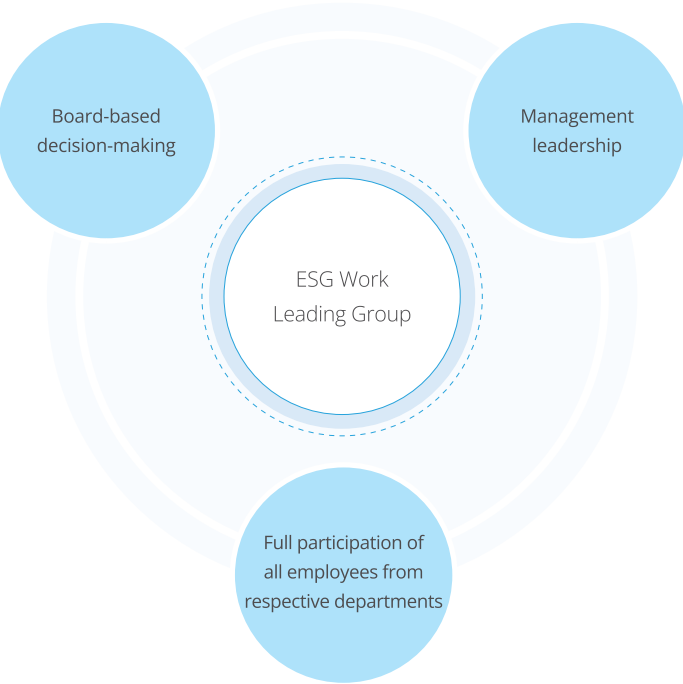
Channels for ESG Information Disclosure

Channels for ESG information disclosure: official website of Halo Microelectronics (halomicro.com), WeChat Official Account (Halo Microelectronics), the official website of Shanghai Stock Exchange (www.sse.com.cn), Shanghai Securities News (www.cnstock.com), China Securities Journal (www.cs.com.cn), Securities Times (www.stcn.com), and Securities Daily (www.zqrb.cn).



ESG Governance Structure

The Company has established an ESG governance structure featuring board-based decision-making, management leadership, full participation of all employees from all departments and units of the various respective departments, horizontal coordination and vertical linkage for better execution of strategic ESG management, which fully ensures the absolute coverage, effectiveness and sustainability of the Company's ESG management.



The Board of Directors acts as the highest-level responsible organ for ESG management operation and information disclosure of the Company, and its main responsibilities are described below:

- Review and approve the Company's ESG strategic plan and objectives, as well as ESG governance structure and essential systems;
- Review and approve the ESG report of the Company and the proper disclosure of significant information on ESG governance;
- Review and approve major ESG issues and ESG-related major risk response plans, etc.

Responsibilities in ESG have been newly added for the Strategy and Development Committee to execute leadership over the ESG activities as described below:

- Formulate the Company's ESG strategic planning, strategic objectives, governance structure and management system after well-considered investigations;
- Evaluate and review the Company's strategies, risks and implementation in ESG management;
- Review the ESG Report of the Company.

No separate ESG management office has been established based on the current size of the Company and the work aspects involved in the preliminary phase of ESG management, and relevant responsibilities are to be performed by the office of the Board of Directors to carry out ESG-related work in accordance with the strategic and management requirements of the Board of Directors and the Strategy and Development Committee, as detailed below:

- Prepare draft ESG strategic and action plans of the Company after proper conduct of relevant studies;
- Organize and develop the ESG work plan of the Company;
- Maintain timely interactions with various departments, subsidiaries and branches of the Company to coordinate the solid execution of ESG activities;
- Collate various indicators and relevant information, prepare annual ESG report and disclose as appropriate;
- Establish and maintain proper interactions with consulting and rating agencies, and execute ESG management training;
- Closely monitor ESG-related risks and issues in the routine management process, propose suggestions and recommendations and report to the Strategy and Development Committee in a timely manner.

All departments, subsidiaries and branches of the Company jointly push forward with the ESG work, with their responsibilities described below:

- Identify proper ESG indicators and management objectives commensurate with its responsibilities;
- Carry out regular monitoring, management and statistics of ESG information indicator system;
- Summarize the data and information required for the annual ESG report by the department (unit) and report to the office of the Board of Directors;
- Process additional ESG-related concerns.

Providing ESG Training

Halo Microelectronics has worked together with various parties in resolving emerging challenges from the environment, economy and society. The Company studied and practiced the ESG philosophy by attending training courses on ESG to improve its overall management level and social image.

ESG training Practicing ESG philosophy to improve the sustainable development ability of a listed company

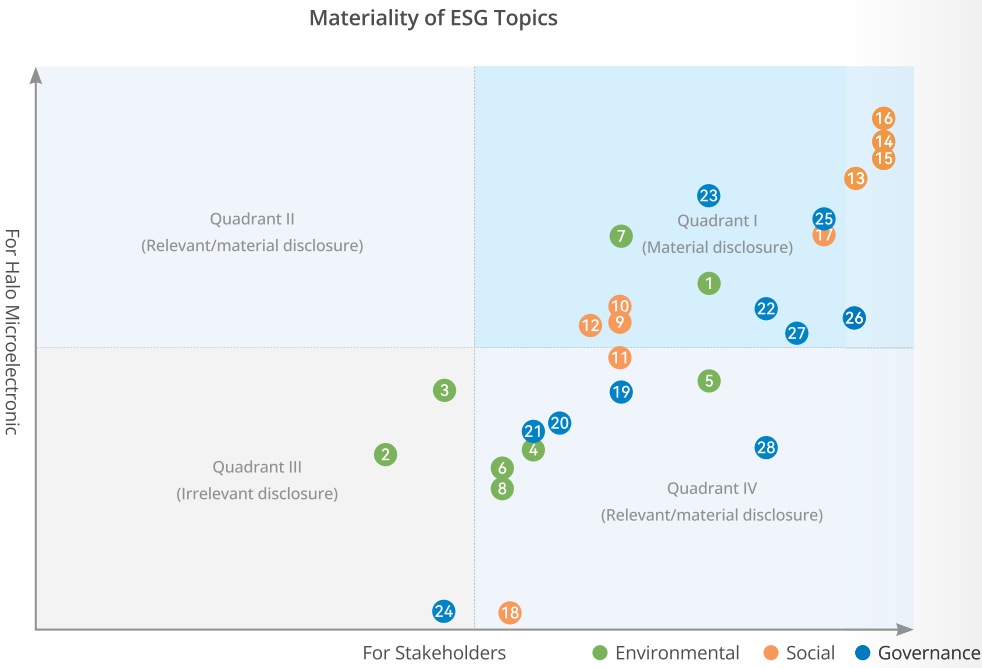
Halo Microelectronics attended the training on “Practicing ESG philosophy to improve the sustainable development ability as a listed company” by the List Companies Association of Guangdong to help its employees obtain a deep understanding of the ESG philosophy and its practice to improve the sustainable development ability as a listed company. The training covered elucidation of ESG definition, ESG regulatory requirement, ESG and enterprise value creation, ESG market disclosure, ESG information disclosure and evaluation, etc. The employees of the Company gained a deeper understanding of the role of ESG management in the sustainable development of an enterprise and achieved a mastery of the specific means and skills required for ESG practice through lectures by the authorities and case-based analysis.



Discussion on Material Topics

We actively involved the stakeholders in the materiality assessment, clarified material topics of interest for both the Company and the stakeholders and gave detailed disclosure of them in the prepared report.





ESG Material Topics

- | | |
|---|---|
| 1 Environment Management Policies | 15 Technological Innovation |
| 2 Emissions of Pollutants | 16 Intellectual Property Protection |
| 3 Hazardous Waste Disposal | 17 Supply Chain Management |
| 4 Use and Recycling of Resources | 18 Social Welfare |
| 5 Ecological Environment Protection | 19 Company Governance |
| 6 Combating Climate Change | 20 Protection of Shareholders' Rights |
| 7 Green Products and Services | 21 Investor Relation Management |
| 8 Clean Technology Innovation | 22 Risk Control Management |
| 9 Protection of Employees' Rights and Interests | 23 Compliance Management |
| 10 Occupational Health and Safety | 24 Leading Role of Party Building |
| 11 Employee Training and Development | 25 Information Disclosure |
| 12 Employee Care | 26 Combating Corruption and Building A Clean Government |
| 13 Safe and Stable Operation | 27 Economic Performance |
| 14 Customers' Rights and Interests | 28 ESG Management |

Topics of high materiality	Topics of medium materiality	Topics of general materiality
<div><div>● Intellectual Property Protection</div><div>● Customers' Rights and Interests</div><div>● Technological Innovation</div><div>● Safe and Stable Operation</div><div>● Information Disclosure</div><div>● Supply Chain Management</div></div>	<div><div>● Combating Corruption & Encouraging Integrity</div><div>● Compliance Management</div><div>● Risk Control Management</div><div>● Economic Performance</div><div>● Environment Management Policies</div><div>● Green Products and Services</div></div>	<div><div>● Occupational Health and Safety</div><div>● Protection of Employees' Rights and Interests</div><div>● Employee Care</div></div>

Interactions with Stakeholders

Stakeholders	Expectations and requirements	Communication channels
<div><div></div><div>Shareholders and investors</div></div>	<div><div>■ Protection of shareholders' rights and interests</div><div>■ Receiving return on investment</div><div>■ Disclosure of material information</div><div>■ Continuous value creation</div><div>■ Preventing business risks</div></div>	<div><div>■ Regular disclosure of business and financial information</div><div>■ Regular and routine communication with investors</div><div>■ Shareholders' general meetings</div><div>■ Performance presentation</div></div>
<div><div></div><div>Government and regulators</div></div>	<div><div>■ Compliance with laws and regulations</div><div>■ Environmental compliance</div><div>■ Paying taxes in accordance with the law</div><div>■ Promoting employment</div></div>	<div><div>■ Daily management</div><div>■ Meetings and communication</div><div>■ Supervision and inspection</div><div>■ Transparent recruitment</div><div>■ Questionnaire and data transfer</div></div>
<div><div></div><div>Employees</div></div>	<div><div>■ Salaries and benefits</div><div>■ Occupational health and safety</div><div>■ Fair opportunities for promotion and career development</div></div>	<div><div>■ Remuneration system</div><div>■ Improving the health and safety system</div><div>■ Multiple development paths</div><div>■ Employee satisfaction survey</div></div>
<div><div></div><div>Suppliers and partners</div></div>	<div><div>■ Honoring our commitments</div><div>■ Fair, just and transparent procurement</div><div>■ Win-win development</div></div>	<div><div>■ Suppliers management</div><div>■ Transparent procurement</div><div>■ Honoring our contracts</div></div>
<div><div></div><div>Customers</div></div>	<div><div>■ Product R&D and technological innovation</div><div>■ Product quality management</div><div>■ Information security and protection of trade secrets</div></div>	<div><div>■ Visits and talks</div><div>■ Customer satisfaction survey</div><div>■ Formulating targeted system documents for customer complaints</div><div>■ Signing confidentiality agreements</div><div>■ Exhibitions</div></div>
<div><div></div><div>General public</div></div>	<div><div>■ Improving community environment</div><div>■ Supporting public welfare activities</div></div>	<div><div>■ Providing relief to disaster victims</div><div>■ Public welfare activities</div></div>

ENVIRONMENTAL PROTECTION

- Technological R&D, Promoting Clean Production
- Green Business for Better Life Together
- Saving Energy and Reducing Emission in Practicing the “Dual-Carbon” Objective
- Green Office to Power Low-Carbon Development

The Company has not had any major environmental incidents in 2022.

Rigid control over power consumption throughout all the product types is executed. The products are specifically used in such scenarios as

Wearable devices with power consumption lower than **1** μ A
High-voltage and high-current charging devices on various terminals
with efficiency varying between **94%–97%**

Initiated construction of Halo Microelectronics’ Innovation Headquarters Base

Total planned land area of the Company’s construction project

7,983 square meters

Green area
799.22 square meters

Greening rate
10.01%



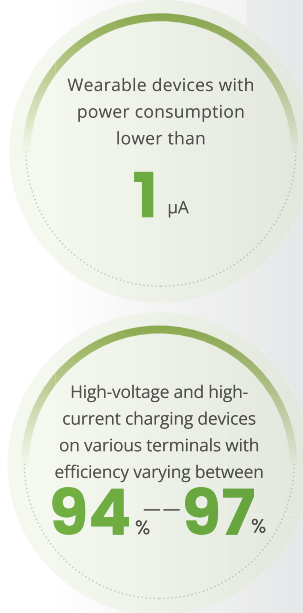
Technological R&D, Promoting Clean Production

Innovative Product R&D

Over the past twenty years, low-power-consumption-based design is becoming a common practice in high-performance applications for the chip design and manufacturing industry. Despite the fact that reducing power consumption is required due to various reasons, yet maximum reduction of overall power consumption for a system based on different applications has been proved an immediate priority. One of the most contributing factors for such a trend consists in globally increasing attention to environmental issues. A remarkably significant number of portable products have been developed; on the other hand, the proportion of electric energy used for calculation and communication in modern workplaces has been constantly increasing. As a result, electronic products with low power consumption and high efficiency are receiving increased popularity from the people, and effective use of energy has been invariably highlighted in all of these products, which has also been considered as the primary objective in the design process. Therefore, power consumption has evolved into one of the most critical parameters in design and performance. The design engineers of the Company are necessitated to design circuits with low power consumption without compromising their original performances.

The products of the Company are mainly developed for the power supply market, making it necessary to execute rigid control over power consumption throughout almost all of its product types. The products are specifically used in scenarios such as wearable devices with power consumption lower than 1 μ A, and high-voltage and high-current charging devices on various terminals with efficiency varying between 94% and 97%. And the products developed by the Company are making its share of contributions to clean energies by progressive replacement of obsolete low-efficiency products.

The Company's products are specifically used in such scenarios as:

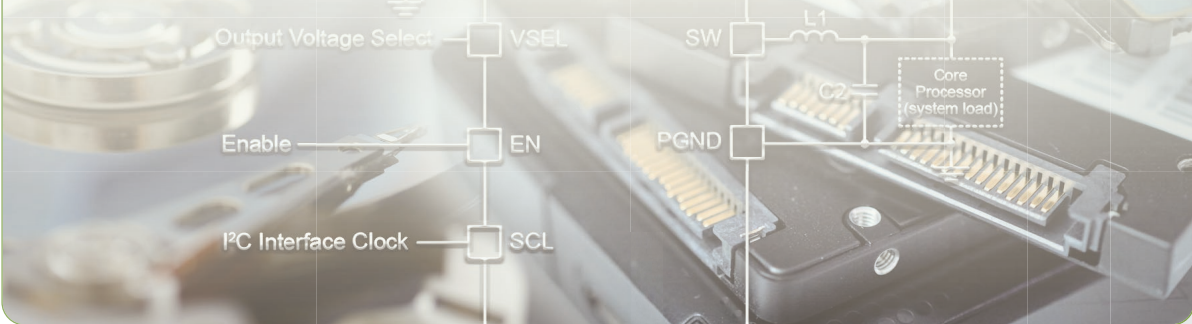


Case

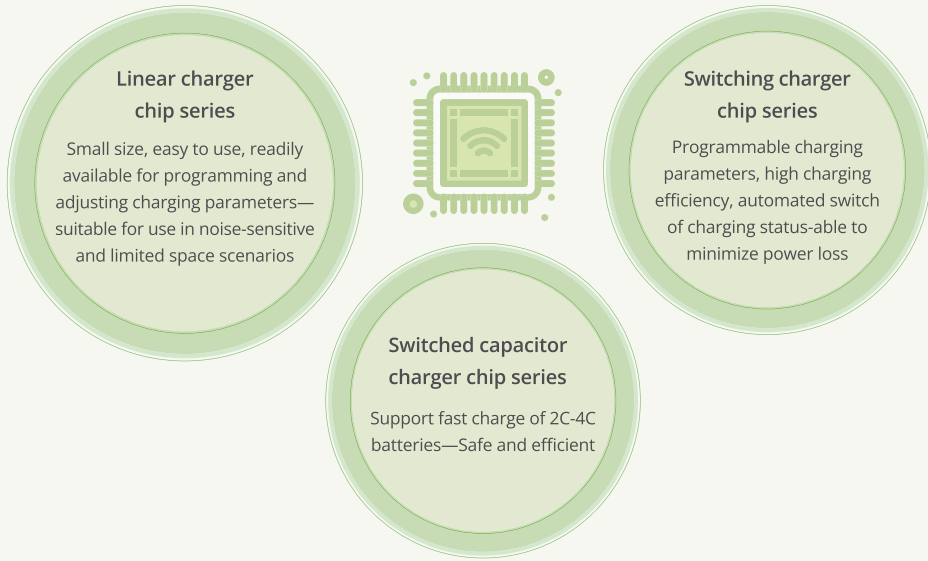
Improving efficiency and reducing power consumption—Technical innovation and breakthrough of Halo Microelectronics' lithium battery charger chip

Science and technology have infused great convenience into our life, and consumer electronics products using lithium batteries as their driving power have been widely used in almost every individual aspect of our daily life. In the meantime, the users are proposing more demanding requirements for lithium battery charger chips. We have also been stressing improved production efficiency to achieve reduced cost and increased efficiency for lower power consumption while catering to the diversified individualized demands from the users.

Halo Microelectronics has successfully developed a wide array of lithium battery charger product series and abundant product combinations to satisfy the users' changing requirements. These products not only support mainstream charging protocols such as USBPD, UFCS and VOOC, but they can also deliver extremely high charging efficiency to ensure lithium battery charging management schemes of efficient charging performance, excellent safety and reliability for the users.



Introduction to lithium battery charger product series



Model	Application
HL7005D	1.7 A Lithium Battery Switching Charger Chip Integrating OTG Boost Function
HL7015	4.5 A I ² C Controlled USB / Adapter Lithium Battery Charger Chip with Power Path Management and 2.1 A OTG Boost
HL7019	3 A I ² C Controlled USB/Adapter Lithium Battery Charger Chip with Power Path Management and 2.1 A OTG Boost
HL7061	5 V / 3 A Boost 2-3S Li-ion Battery Charger Chip with 5.4 A Buck Output
HL7040	900 mA Single-Input 1S Li-ion Battery / Li-polymer Battery Charger Chip with Auto Start
HL7046	500 mA 1S Li-ion Battery / Li-polymer Battery Charger Chip with Power Path Management
HL7090	900 mA Headset Charger, Dual Channel Input, Integrated Boost SoC Chip
HL7130	Dual Phase 40 W Charge-Pump Charger Chip
HL7132	Dual Phase 30 W Charge-Pump DC Charger Chip
HL7139	Dual Phase 35 W Charge-Pump Charger Chip
HL7227	Dual Phase 60 W Charge-Pump Converter Chip

Opportunities Emerged in the Establishment of A Green Building

Case Impending initiated construction of Halo Microelectronics’ Innovation Headquarters Base

Halo Microelectronics’ Innovation Headquarters Base will be located at Guicheng Street, Nanhai District, Foshan, with a construction period spanning from 2022 to 2025. Guided by the design concept featuring “science and technology, future-like scenario”, “green, ecological and nature-protecting nature” and “vitality, diversity and mobility”, the Company aims to deliver a flexible torsional twin-tower building that manifests Halo Microelectronics’ corporate features and characteristic culture represented by its vision of “making life better with green energies” so that this new headquarter building can be a powerful tool for Halo Microelectronics to operate internationally with the substantial potential from the integration of Guangdong-Hong Kong-Macao Greater Bay Area and thus function as the innovation base integrating technical R&D and reserve, mass-production testing, operation and management, a scientific innovation center for integrated circuit and gathering center for top international talents. The total planned land area of the Company’s construction project measures 7,983 square meters, of which the green area occupies 799.22 square meters, representing a greening rate of up to 10.01%. The planning and design are intended to showcase the environmental merit featuring extensive afforestation, conformance to the mainstream trend of sustainable and environmental protection development, and reflect the concept of harmonious coexistence between humankind and mother nature. The spatial design of the building uses green production as its dominant element, as reflected by a well-considered alternate layout between the building and green plants.



Design Rendering of Halo Microelectronics’ Headquarters Building



Green Business for Better Life Together

Halo Microelectronics has been upholding the mission of "Green Energy, Better Life", actively responding to the national development strategy, strictly complying with the relevant laws and regulations, adhering to the concept of sustainable development, and taking up responsibility for environmental protection.

Environmental Management System

Since its incorporation, the Company has strictly complied with national and local laws and regulations on environmental protection and emission, and actively carried out environmental monitoring, pollution prevention and control work to effectively reduce the impact on the environment. The Company implemented environmental protection and hazardous substance management systems throughout the supply chain. All of our materials and products comply with RoHS, REACH and other regulatory standards. The Company raises employees' awareness of energy saving and environmental protection through internal publicity campaigns that promote the idea of starting with the smallest efforts by focusing on saving electricity, water, paper, etc., and traveling green in daily office activities. We called for our employees to adopt a modest, green and low-carbon work and lifestyle. The Company has not had any major environmental incidents in 2022.

The Company has not had any major environmental incidents in 2022.



Combating Climate Change

To effectively prevent environmental risk incidents, immediately and effectively address potential abrupt environmental risk incidents, comprehensively control and eliminate pollution, protect the physical and mental health of our employees, and ensure environmental safety, the Company has formulated the "Environmental Risk Emergency Plan".



Environmental Risk Emergency Plan

It spells out the organizational structure and roles in emergency response, the early warning and emergency rescue work in extreme weather and natural disasters, and the procedures in reporting, evacuation, resources deployment, personnel arrangement, treatment plan and investigation results on the heels of emergencies to protect employees and company properties to the greatest extent possible and reduce the negative impact of climate change on the Company.

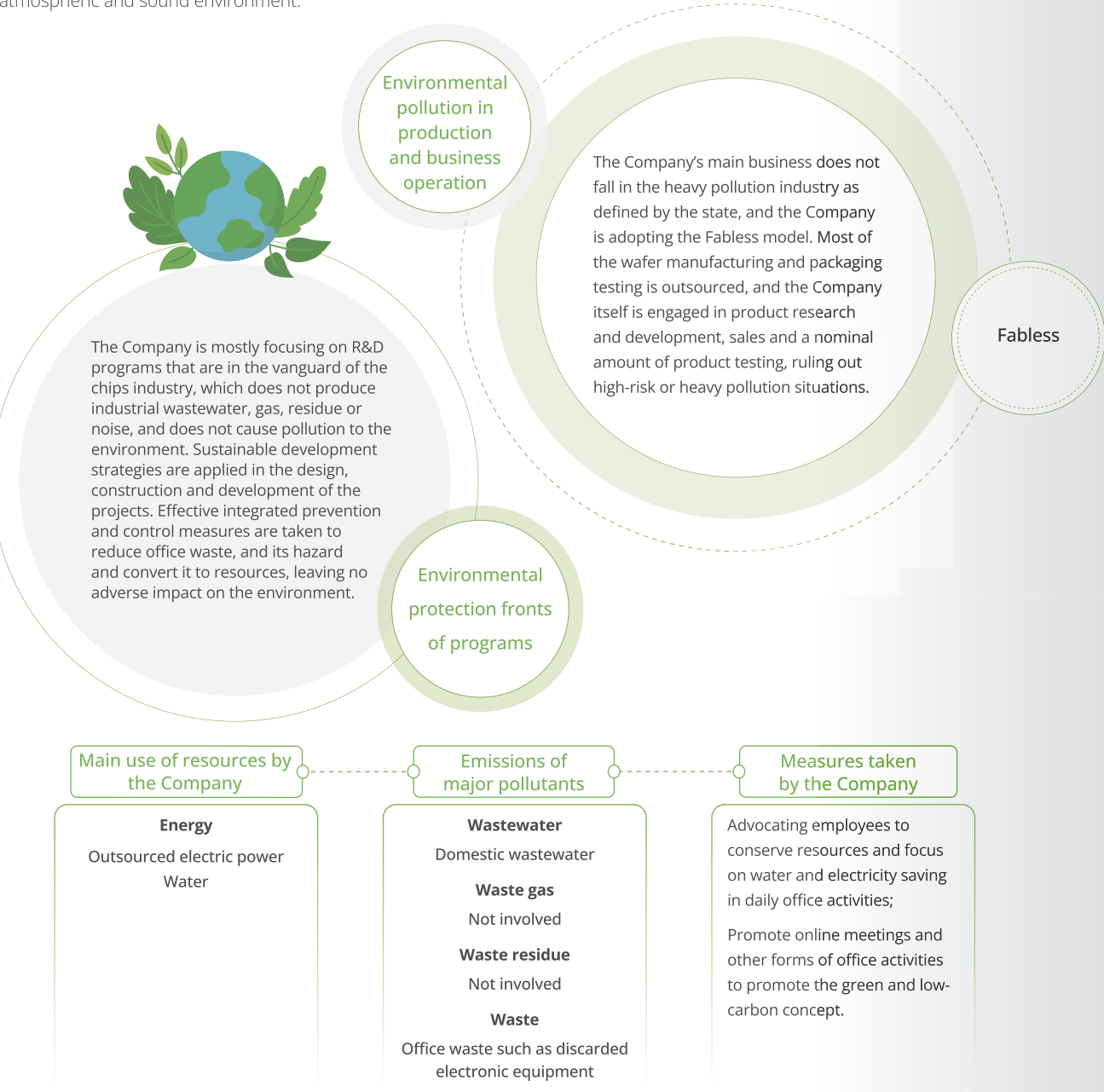
To address the impact and challenges brought by climate risks, the Company has referred to the Task Force on Climate-related Financial Disclosures (TCFD) information disclosure framework for climate risk identification and evaluation.

Climate Risk Identification and Response		
Type	Description	Response
Contingency Risks	<ul style="list-style-type: none">■ Extreme weather conditions (e.g., typhoons, heavy rains, floods) result in the shutdown of production, damage to assets and personnel injuries.	<ul style="list-style-type: none">■ Develop emergency response plans for natural disasters;■ Improve response schemes;■ Identify risks that may cause losses purchase relevant insurance.
Chronic Risks	<ul style="list-style-type: none">■ Rising temperature leads to increased energy consumption, lower operational efficiency, and higher operating costs for the Company; posing threat to employee health.	<ul style="list-style-type: none">■ Provide a complete set of facilities, reasonably design production plans, and improve operational efficiency.
Policies and Laws Risks	<ul style="list-style-type: none">■ The government introduces stricter policies and regulations to mitigate climate change, placing greater demands on environmental management compliance.	<ul style="list-style-type: none">■ Stay on top of new developments in environmental policies, plan and respond promptly;■ Actively engage in green R&D, energy saving and emission reduction.
Market Risks	<ul style="list-style-type: none">■ Increasing market focus on the environmental friendliness of products and services, altering the demand for certain products and services;■ Failure to fulfill consumers' demand for green and low-carbon products;■ Raw material and energy costs increase.	<ul style="list-style-type: none">■ Vehemently promote the use of low-carbon fuels and renewable energy.
Technology Risks	<ul style="list-style-type: none">■ The research and development of innovative technologies lead to equipment upgrades and overhaul, and increased research and development costs, and weakened competitiveness in products of the same category arising from failure to identify and apply low-carbon technologies promptly.	<ul style="list-style-type: none">■ Continuous research on low-carbon technologies and proactively seeking industrial collaboration.
Reputation Risks	<ul style="list-style-type: none">■ The proactiveness and effectiveness of the Company's response to climate change and support for low-carbon transition under the dual-carbon objective will affect the perception of the Company by investors and the general public. The reputation of the Company may be at stake if failed to live up to public expectations.	<ul style="list-style-type: none">■ Buoy up all-hands awareness of environmental protection;■ Step up on supervision of environmental management work;■ Actively engage in green activities.

Saving Energy and Reducing Emission in Practicing the “Dual-Carbon” Objective

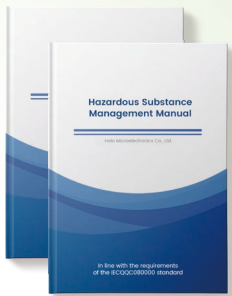
Use of Resources and Emissions

The Company strictly observes the relevant national and local environmental protection laws and regulations in its business activities and conscientiously implements the Environmental Protection Law of the People's Republic of China, the Water Pollution Prevention and Control Law of the People's Republic of China, the Atmospheric Pollution Prevention and Control Law of the People's Republic of China, the Law of the People's Republic of China on Prevention and Control of Pollution from Environmental Noise, the Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes and other environmental protection laws and regulations, and there were no violations in environmental protection during the reporting period. There is no production of waste gas, residue and noise during business operations, leaving little impact on the atmospheric and sound environment.



Hazardous Substance Management

In line with the requirements of the IECQQC080000 standard and the conditions of the Company, the control document “Hazardous Substance Management Manual” has been put together. The manual is a guiding document that elaborates on the HSF policy and objectives, and management system and provides basic regulations that should be followed for the Company in carrying out hazardous substance process management. Internally, it is used for internal HSF management and serves as the basis for the implementation of hazardous substance process management in all departments of the Company, and externally it is a confirmation document for the assurance of hazardous substance process management and a commitment to our customers.



The manual covers the standard terms of the IECQ QC 080000:2017, and we have developed the enforceable regulations suitable for the operations of the Company, applied to the management of hazardous substances throughout the process from the purchase of raw materials and auxiliary materials to the shipment of products in accordance with the rules and requirements of the Guidance for Products Environmental Quality Assurance, RoHS2.0 regulatory directives, SONY (SS-00259) technical standards, Samsung (0QA2049) standards, WEEE regulatory directives, REACH (SVHC) regulatory directives requirements, China RoHS, US Consumer Product Safety Improvement Act CPSIA, EU Toy Directive, Battery Directive and other rules and requirements. All component materials, auxiliary materials and packaging materials used in the product are included. This manual will be updated in accordance with changes in environmental laws and regulations, updates to relevant standards, or reasonable requests from customers. The Company ensures customer satisfaction and compliance with applicable laws and regulations by implementing a hazardous substances management system and establishing relevant schemes.

Green Office to Power Low-Carbon Development

Concept of Green Office

Halo Microelectronics attaches great importance to the cultivation of green thinking among employees. The Company adheres to the concept of sustainable development, practices corporate social responsibility, responds to the requirements of customers and suppliers, and promises not to use minerals from regions of conflict and hazardous substances in raw materials and products. Meanwhile, the Company raises employees' awareness of energy conservation and environmental protection through internal publicity campaigns. Starting from small things, our employees pay attention to saving of electricity, water and paper while exercising green traveling, etc. in daily office work. We advocate that our employees develop a moderate and green low-carbon work and lifestyle, and truly integrate the concept of low-carbon environmental protection into business activities and daily office work.



Advocating Green Office

- The Company advocates that employees set the air conditioner at no less than 26°C in summer, turn off power promptly as electronic appliances are not in use, turn off lights, computers, air conditioners, etc., promptly before leaving the Company, and turn off lights, air conditioners and electronic screens in conference rooms promptly after meetings.
- The Company has posted "Save Water" prompts in the pantry to remind employees to save water and turn off the tap in a timely manner after use.
- The Company encourages employees to send files via email to reduce paper printing.
- When organizing meetings, the Company encourages employees to send the meeting schedule to the participants by email to improve efficiency and save costs, while ensuring security and confidentiality, achieving energy conservation, environmental protection and security.
- When printing materials, employees are advised to choose double-sided printing to reduce the paper used and save energy while driving down costs.

Case Waste battery recycling

The office recycles and concentrates the waste batteries and puts them in a special waste battery recycling location in the office building.



Case Green commute

Employees commute more by bus, subway, and bicycle, which are environmentally friendly and healthy.



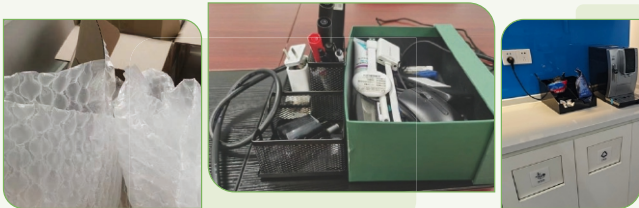
Case Saving resources

The office advocates the concept of saving electricity and water, reduces unnecessary lighting in the office area, and promotes turning lights off as one is leaving; There are water-saving signs in the pantry to promote environmental protection; Turn off electrical appliances when leaving the office and keep the air conditioner at a proper temperature.



Case Waste recycling

The office collects express delivery boxes and packaging materials and places them in a location, and recycles them when needed, promoting recycling and environmental protection. At the same time, the office strictly implements the waste classification system and complies with the requirements of waste classification.



Sustainable Supply Chain

Halo Microelectronics actively practices sustainable supply chain and green procurement, and fully considers environmental factors in supplier selection and product procurement, and includes them in the selection of suppliers.



The Company has established the "Supplier Management Control Procedures", in selecting suppliers and before mass production, the designated SQE is requested to clarify with the supplier and update the report of hazardous substances of materials or finished products in time. If the supplier cannot meet the requirements, improvement plans must be submitted until the requirements are met.



The Company has formulated the "Fixed Assets Maintenance and Disposal Procedures", equipment with low performance, high energy consumption or those causing serious pollution, endangering personal safety and health, or uneconomical to overhaul is scrapped. The environmental impact of these assets is taken into account while ensuring their operational efficiency.

The Company requires suppliers to provide technical information and other supporting documents, including third-party inspection reports, environmental testing reports, etc., in procurement to ensure the purchased products comply with the Company's regulations.



All of our products comply with RoHS, REACH and other rules.

SOCIAL RESPONSIBILITY

- “Chip” the Way Forward, Say “Halo” to the Future of Made in China
- Connecting with Halo Microelectronics, Cultivating the Fertile Land for Growth
- Social Contribution, Practicing Sustainable Development

Patents of invention in 2022

42

Patents of domestic inventions

32

Patents of overseas inventions

10

Proportion of R&D personnel in the Company in recent three years was about

60 %

Average time of handling customer complaints

60 minutes

Complaint addressing rate

100 %

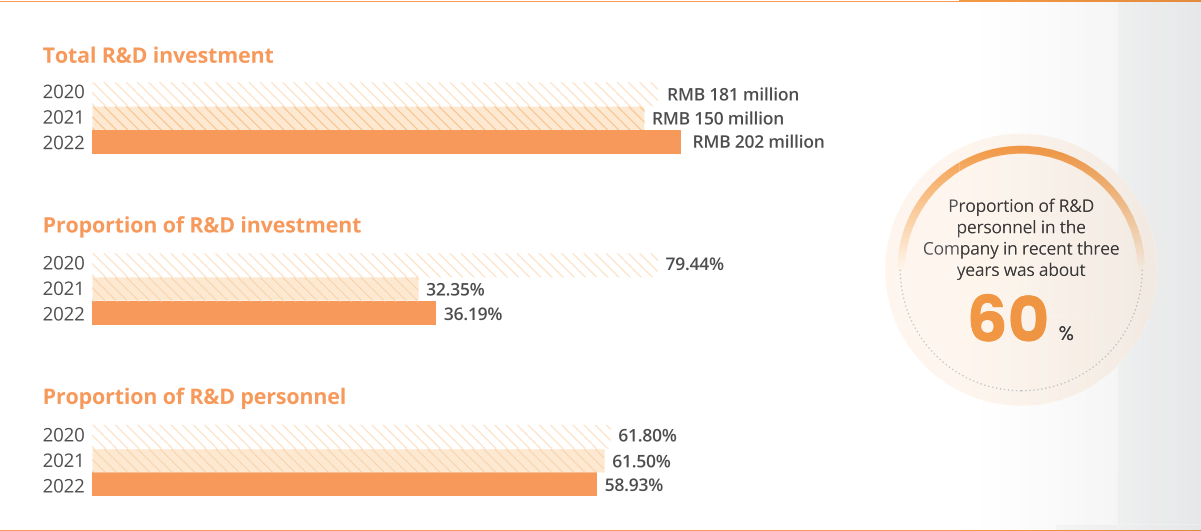


“Chip” the Way Forward, Say “Halo” to the Future of Made in China

From spending three years on the development of the first chip, from 3,000 to 30,000 chips, and then to the shipping of millions of chips, Halo Microelectronics pegged away with resolute and commitment, forged ahead in innovating and step by step made a name for us with “homemade chips”.

Keeping up the Driving Force of Innovation

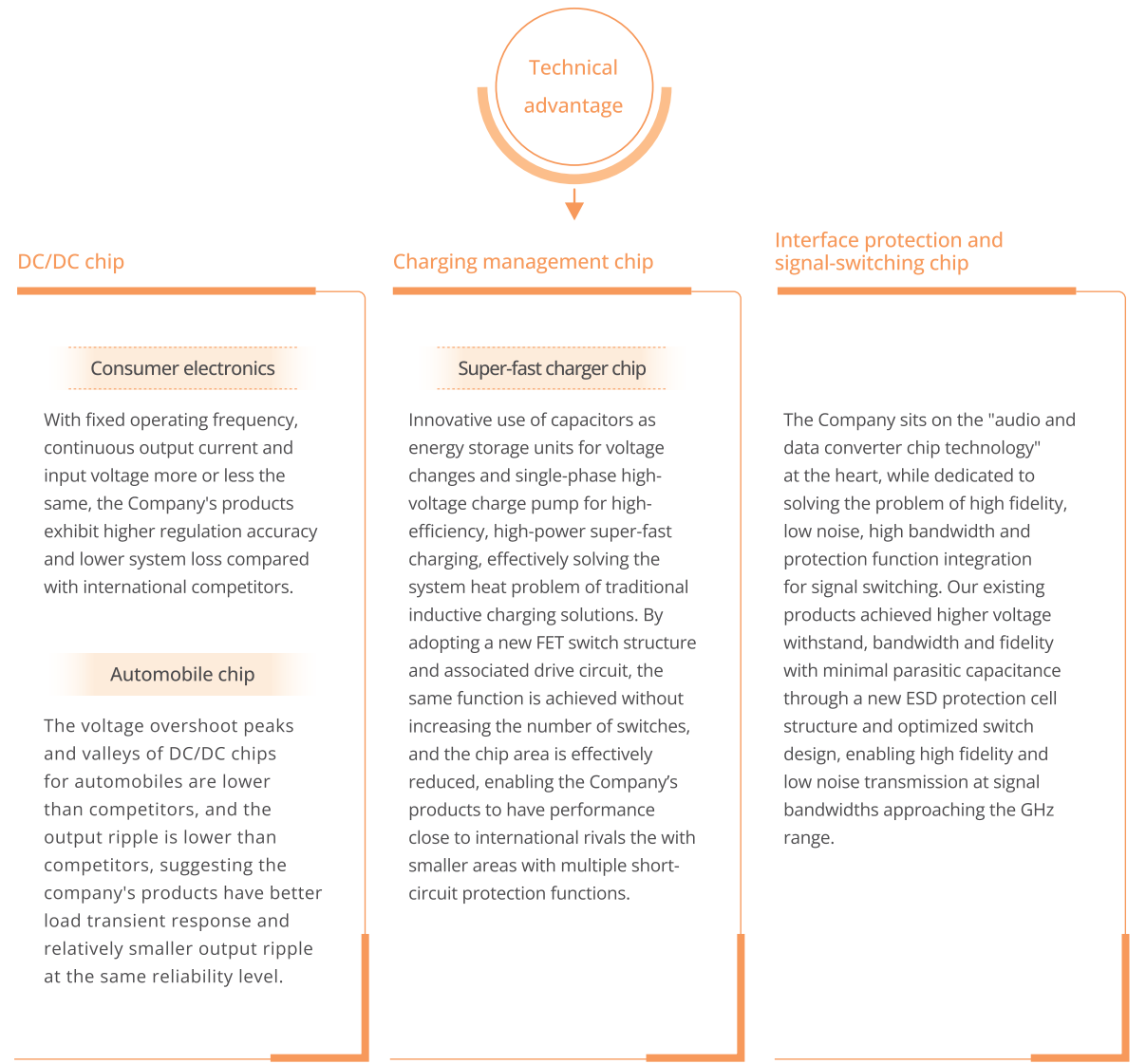
Focusing on products with high value, high technical demands and high barriers, Halo Microelectronics chose to fight the uphill battle and always considers innovation as the core driving force for the Company's sustainable development. We attach great importance to the accumulation of the underlying technology, constantly improve product competitiveness, and have built a moat of leading technology. We have become one of the few domestic manufacturers that can compete for head to head with overseas counterparts in the global high-end analog IC market. The Company focuses on boosting the synergistic effects between technology and products. We exercise the multi-product approach to power high-speed, high-quality growth and development.



Halo Microelectronics’ main business covers the development, design and sales of analog integrated circuits, including power management chips and signal chain chips. Our product lines have encompassed DC/DC chips, super-fast charger chips, Li-ion battery fast charger chips, interface protection and signal switching chips, etc., that are mainly used in cell phones and laptops. The key technical indicators of some models have surpassed those of domestic and foreign competitors with performance rivaling leading domestic manufacturers. In the meantime, the Company is combining the AF/OIS technology-related voice coil motor driver chip products, with existing power management and signal chain chip products to consolidate its position in the field of consumer electronics. In the future, the Company will continue to enrich its product offering and boost product performance, providing end-to-end total solutions for electronic devices from power input to core device power.



With high efficiency, low power consumption and high reliability, Halo Microelectronics’ products are designed with significant competitive advantages. The Company has successfully earned a position in the supply chain of first-tier cell phone brands at home and abroad and automobile brands in China, Europe, Japan and Korea, enabling import substitution in the field of analog integrated circuits such as power management chips and signal chain chips as a home brand.



Case

Focus on innovation empowerment: interface protection chip guarantees user safety and reduces energy consumption

From 2024, onwards all electronic devices sold within the EU, such as cell phones, tablets and digital cameras, must come with a Type-C charging interface. Halo Microelectronics can provide a wide range of products to meet the needs of users. These products integrate the necessary protection features to ensure that they provide users with a power solution that equally considers efficient charging and full protection.

01

Halo Microelectronics' high performance USB Type-C interface protection and audio switch family enables critical features for analog audio headsets and other mobile applications.

02

Halo Microelectronics' USB protection and load switch product line integrates high voltage load switching, output overvoltage protection, input undervoltage protection, over temperature protection, short circuit/over current/reverse current protection to extend product life, reduce product overheating accidents and enhance user experience, leading to increased product safety and reduced energy consumption in products down the supply chain.

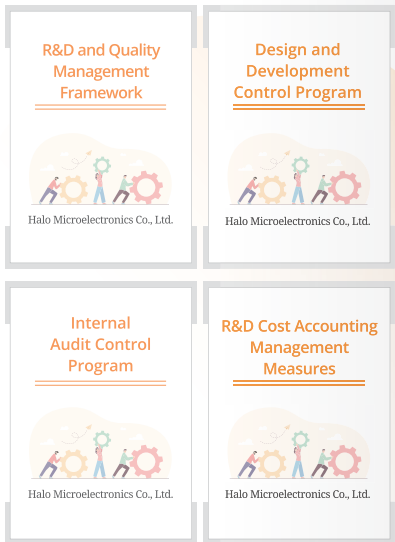
03

Halo Microelectronics' SIM level shifting product family provides excellent level shifting for SIM card ports while supporting the IEC 61000-4-2 standard for electrostatic discharge (ESD) protection, improving product safety and performance, effectively boosting the quality of end-products.

Improving Management with Innovation

Under the Fabless business model, product design and R&D are at the heart of the Company's operations. Halo Microelectronics attaches great importance to the development and management of the R&D innovation system, and has long been committed to establishing a standardized product development process and quality control system, ensuring premium product design, effective quality assurance and reliable risk management throughout the phases in R&D for each product series.

The Company has developed the R&D and Quality Management Framework, Design and Development Control Program, Internal Audit Control Program, R&D Cost Accounting Management Measures and other R&D associated management frameworks and procedures, and has actively learned from superior experiences, referred to the top-level architecture design of mainstream innovation management systems, and gradually established its own R&D and innovation management system tailored to our features, streamlining and systematizing innovation work to form a closed loop.



01

Stage 1
Assessment

First, assess current R&D innovation capabilities, taking into account especially the ongoing activities. Study the opportunities and challenges facing the Company, and find out where the Company stands in terms of technology trends, competitor moves, and user preferences. Ascertain the Company's position and clarify our R&D innovation intentions based on these many factors.

02

Stage 2
Implementation

Once a strategic product development plan has been established, the Company allocates resources to support the development plan and ensures that the plan is aligned with the strategy in the course.

For that matter, Halo Microelectronics has set up an R&D product management framework. The framework links together related resources such as marketing, R&D and engineering with the Product Quality Management Department at the junction to accomplish the following tasks together:

Coordinate the allocation of R&D resources, manage the project schedule and promote the steady progress of product development;

Coordinate with the supply chain to complete the production of products in the engineering phase and prompt the engineering department for testing;

Push the R&D and engineering departments to work together for product debugging and to decide whether to revise it based on the review results, thus forming a closed loop of product development;

Coordinate with engineering and marketing departments to complete the final review and launch mass production when R&D objectives are met.

Halo Microelectronics' R&D product management framework not only follows up on product improvements and amends but also establishes metrics for those involved in the project to measure progress and evaluate results, and sets up communication channels between project teams to keep all members abreast of project developments.

03

Stage 3
Extension

Drive innovation by motivating more people in the organization, and fostering a culture of innovation within the Company. The Company's innovation incentive policy includes and is not limited to offering honorary titles as well as prizes to teams with excellent project delivery and individuals for filing patent applications, etc.

04

Stage 4
Improvement

Assess overall performance. Determine if the R&D innovation objectives are met based on the product review.

Examine organizational processes and improve efficiency by revising the management system, thus closing the loop and improving the performance of the entire R&D and innovation management framework.

Promoting Industry Growth


In terms of participation in international standard organizations, Halo Microelectronics has joined the USB-IF international standard organization, the International Wireless Power Consortium (WPC), the JEDEC Solid State Technology Association and other international organizations in the industry to develop the specifications for next-generation integrated circuits related to power management chips and power devices.

Halo Microelectronics actively responds to the government's call to boost school-enterprise cooperation and the deep integration of enterprises, universities and research institutes. We attach great importance to the strategic talent cultivation of “technological innovation”, and continued to carry out exchanges and cooperation with a great number of eminent universities at home and abroad and participate in the integrated circuit industry-education collaborative education to serve China's strategy of IC industry development and promote the development of talent of creativity in the IC industry.

It's top on the agenda of Halo Microelectronics to engage in industry exchanges and communication. We set our eyes on the forefront of industry technology and cooperated with leading companies in the industry to continuously contribute to the healthy growth of the industry.

Case

Halo Microelectronics announces its wholly owned subsidiary Halo Microelectronics Hong Kong entering into the Autofocus and optical stabilization technology license agreement with Dongwoon Anatech Co., Ltd., South Korea. Halo Microelectronics Hong Kong is granted an exclusive license to manufacture and sell products containing the AutoFocus and Optical Image Stabilization technology in the Chinese mainland, the Hong Kong Special Administrative Region, the Macao Special Administrative Region, Taiwan, and have the right to use the licensed technology for technical improvements and new product development.



Halo Microelectronics Hong Kong + Dongwoon Anatech Co., Ltd., South Korea

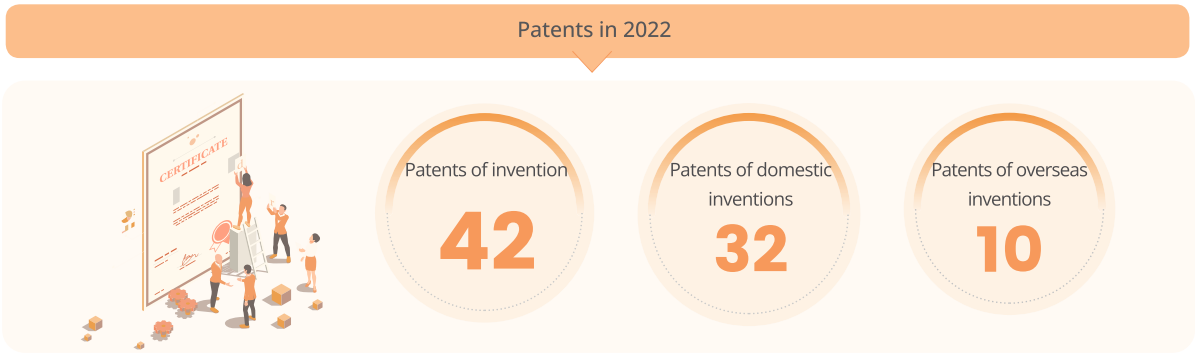
This transaction is conducive to the Company's quick break into the voice coil motor drive chip segment, completing its product offerings and deepening the dimension of cooperation with existing customers and developing new ones.

Intellectual Property Protection

As a knowledge-intensive enterprise, Halo Microelectronics attaches great importance to standardizing intellectual property management and protecting the rights and interests of inventions and creations, and has established Intellectual Property Management Measures in accordance with the Patent Law of the People's Republic of China, Copyright Law of the People's Republic of China, Regulations on the Protection of Integrated Circuit Layout Design and other relevant intellectual property laws and regulations. The Company has set up a Patent Management Committee, responsible for a wide range of work such as planning, approval, management, mining, writing training, evaluation and protection of the Company's patents.

Halo Microelectronics focuses on educating its employees on respecting the intellectual property rights of others and requests that no technology, trade names, fonts, pictures, graphics, software, etc. that are patented, trademarked or copyrighted by others be used in the workplace without the authorization of the owner of the intellectual property rights to avoid the risk of infringement by the Company.

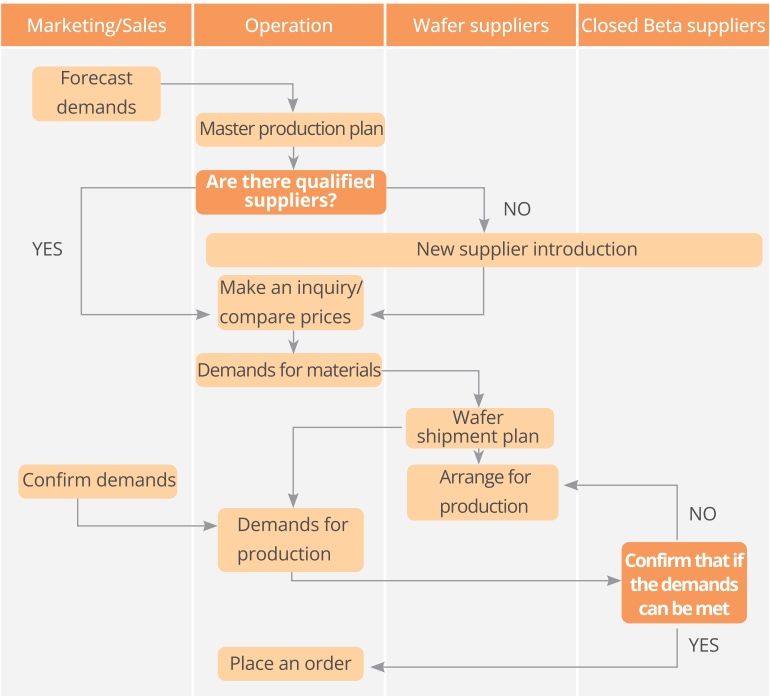
In the meantime, Halo Microelectronics has established an incentive approach encouraging employees to actively apply for various intellectual property rights, including patents and copyrights, to fully mobilize them for innovation.



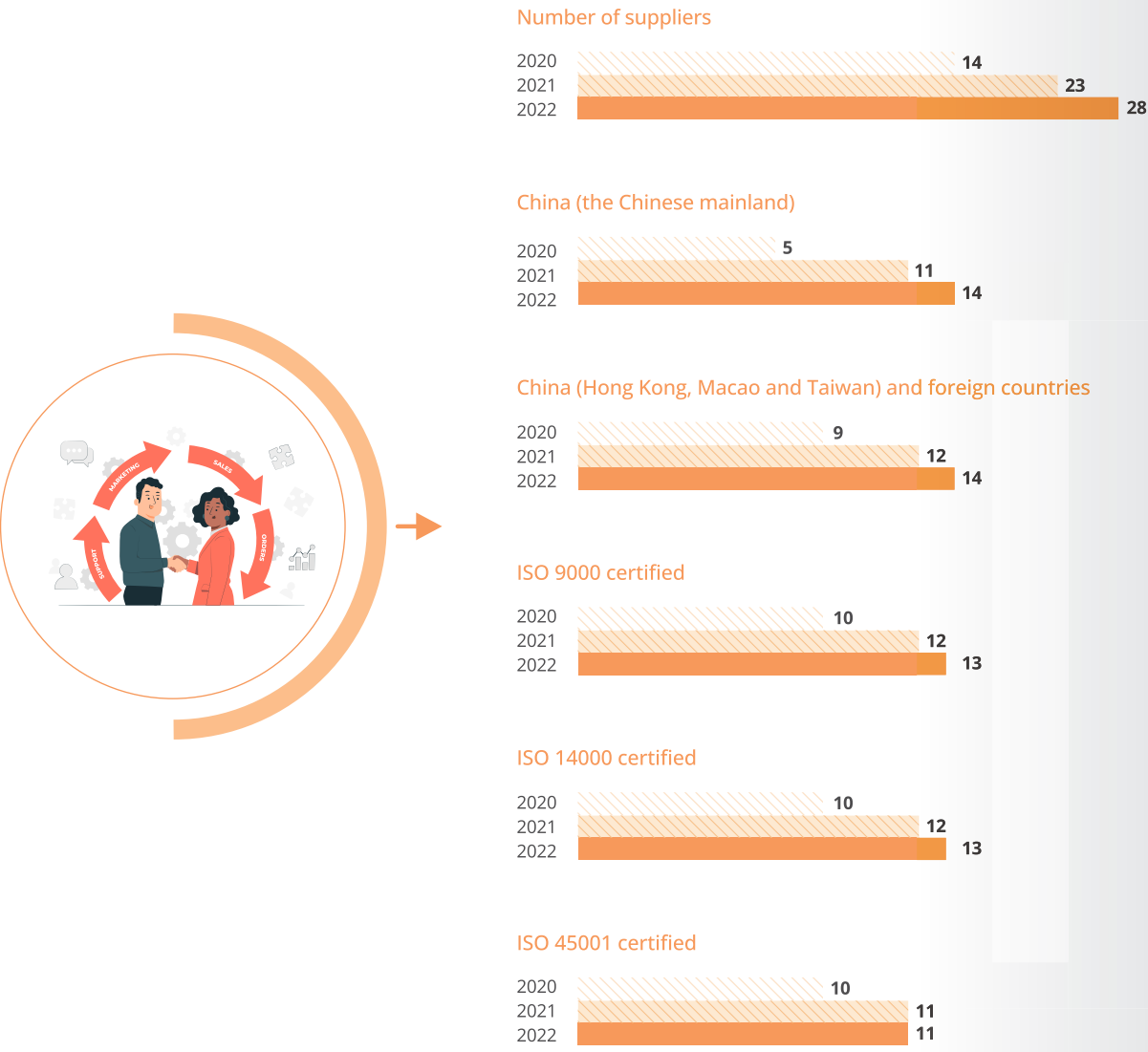
Exercising Responsible Management

Forging Transparent Procurement

Halo Microelectronics strictly follows the "Bidding and Tendering Law of the People's Republic of China" and other relevant laws and regulations, and has developed the "Procurement Management System", "Procurement Control Procedures" and other systems to form a complete procurement procedures framework. Meanwhile, a complete supplier review system has been developed to assess suppliers in various aspects including quality, environmental safety and social responsibility, green product management, inspection, non-conforming product control, contract review, etc. We treat our suppliers in a non-discriminatory manner in the access process, adhere to the principle of fairness and impartiality, insist on "transparent procurement", and maintain close cooperation and mutual trust, and win-win relationships with our suppliers.



To manage the suppliers, ensure the purchased products meet the requirements and guarantee the delivery of the project, the Company has compiled the "Supplier Management Control Procedures" applicable to suppliers involved in the whole product life from manufacturing to delivery to the customer.



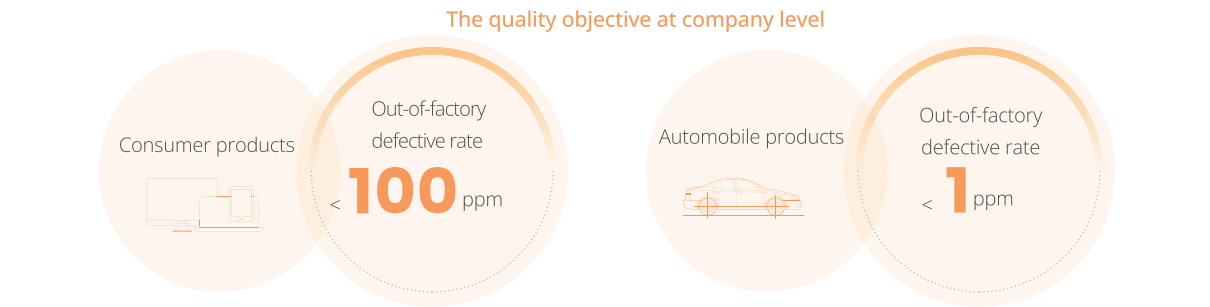
To reinforce supplier communication and supervision, the Company has developed the "Supplier Risk Management System" and various supplier evaluation criteria. Those suppliers who have passed certification are requested to be subject to the Company's on-site inspection and assessment rating. Suppliers list and quota are dynamically adjusted according to the review result.

Building Supply Chain System

Amid the rapidly evolving industry, the Company recognizes the critical role of a diverse supply chain system in dealing with climate change and other disasters. To that end, Halo Microelectronics has built a complete supply chain system both at home and abroad, and has developed a supplier failure risk precaution plan that can help the Company stabilize supply worldwide.

Strictly Controlling Product Quality

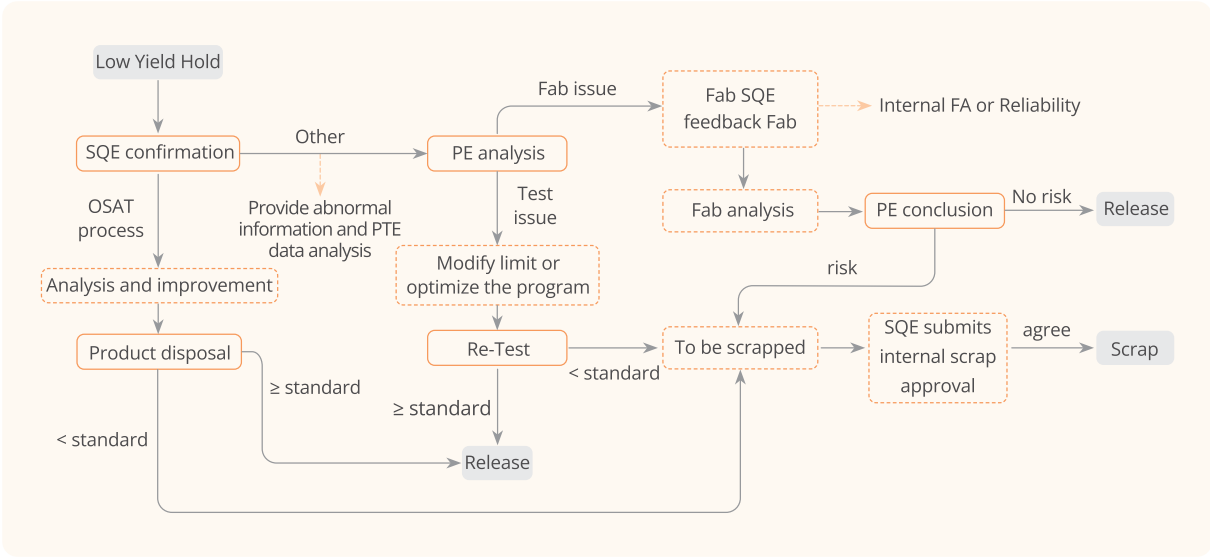
Halo Microelectronics upholds the quality policy of "quality is a lifeline", watches closely over the quality of products, and is committed to providing customers with high-quality products. On top of the ISO 9001 quality management system certification, Halo Microelectronics has been gathering experience, developing the quality management system in reference to the "ISO 9001 Quality Management System Requirements", appointing personnel in charge of the quality management system and compiling quality manual. We continuously improve quality, service (including delivery), price, technology and management through our quality policy, quality objectives, audit results, data analysis, corrective and preventive actions and management reviews.



Due to the nature of the Fabless business model, the stability of the Company's product quality depends on the competencies of our suppliers. In addition to the strict exercise of supplier access and dynamic adjustment of the supplier list, the "Supplier Management Control Procedures" and "Supplier Production Practices" also provide clear requirements and procedures for suppliers looking for partnerships. Suppliers shall strictly implement the relevant frameworks to ensure the quality of products meet the needs of the Company and customers.

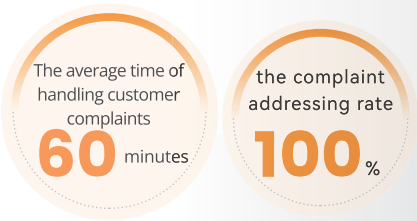
To ensure the quality management system meets its intended results, the management identified the risks and opportunities to be addressed and carried out management actions targeting the identified risks and opportunities for continuous improvement; General Manager evaluates the effectiveness of the Company's risk and opportunity actions at the annual management review.

Halo Microelectronics has a comprehensive product abnormality handling process, assigning problems into abnormality, low yield, customer complaint or product return categories for the timing of handling and delineating the rights and responsibilities of each functional department and suppliers, forming a complete set of the abnormality handling process.

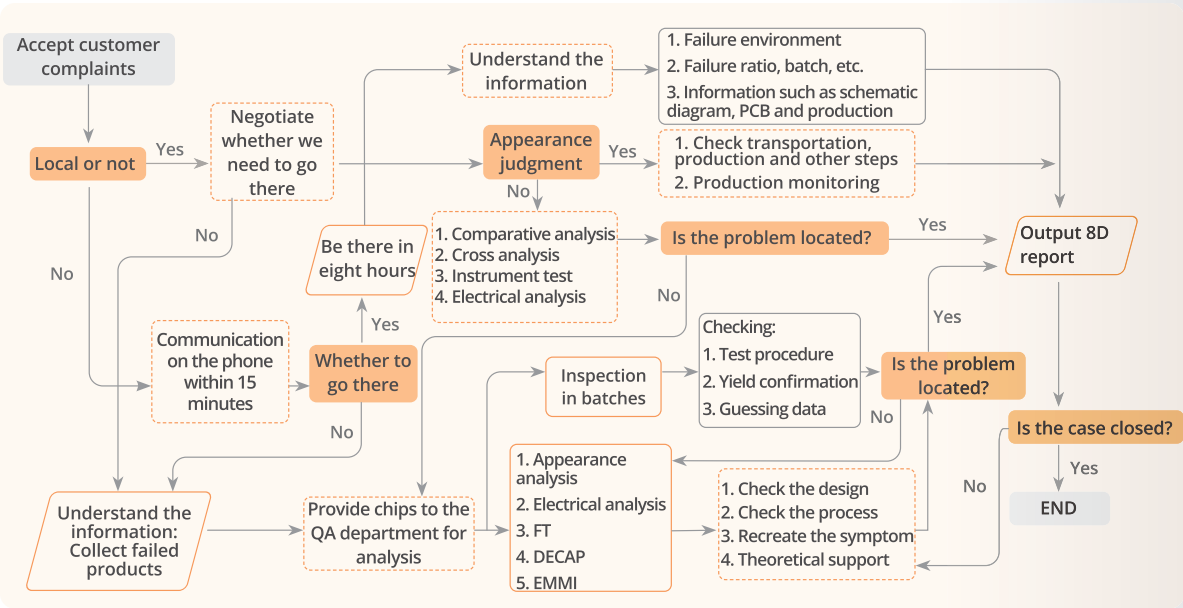


Responding to Customer Complaints

The Company is driven by customer expectations and carries out regular customer satisfaction surveys. We use customer complaints to guide technological advancement and business growth, actively respond to complaints, and have established the "Customer Complaint Handling Process" and "Response to Customer Complaint Analytical Process" to regulate after-sales management, improve customer experience and seek opportunities for continual improvement. The average time of handling customer complaints stood at 60 minutes over the last 3 years, and the complaint addressing rate was 100%.



Flowchart for handling customer complaints



Information Security Management

Halo Microelectronics exercises strict information security management Halo Microelectronics developed the Information Privacy Management System, adhered to the principle of "work-related, minimal authorization, controlled approval and traceability", ascertained the lead management function and confidentiality management requirements for relevant commercial information confidentiality and practically protect commercial information security.

System and measures are taken by the Company to protect customer information security

- The Company signs confidentiality agreements with employees and special confidentiality agreements with partners for specific programs.
- The Company regularly offers training for employees on information confidentiality and raises their awareness of confidentiality.
- The Company has formulated the "Information Confidentiality Management System", which stipulates the confidentiality requirements of employees on customer information; and developed the "Administrative Document Information Flow Control Measures" targeting business information associated with business operations covering management, sales, financial, planning, samples, bidding materials, customer information and data. The outflow of information is put under monitoring through the combination of our framework and OA system.

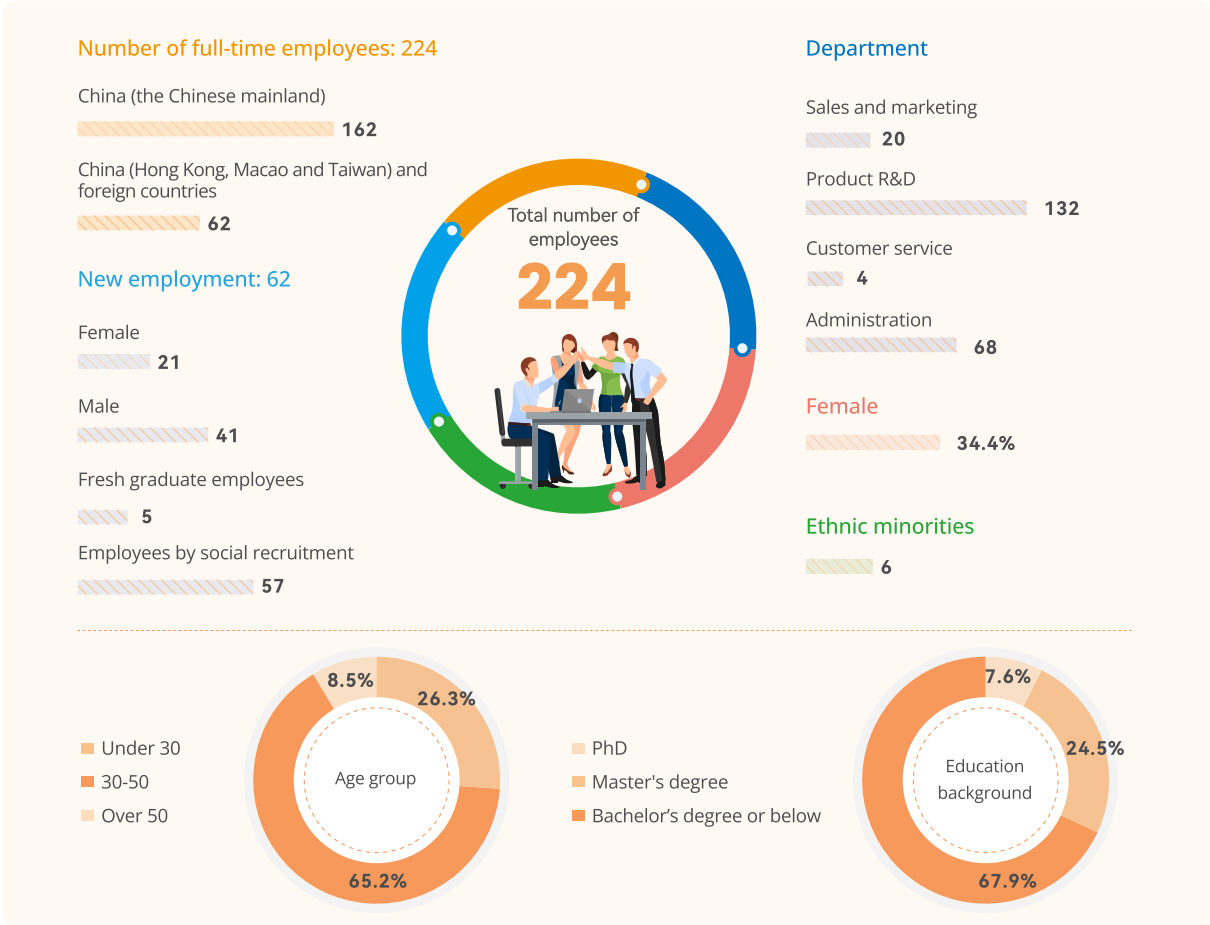
Connecting with Halo Microelectronics, Cultivating the Fertile Land for Growth

Halo Microelectronics is committed to the principle of putting people first, respects and protects the legitimate rights and interests of employees, recognizes and treats every employee in a proper manner, and creates a harmonious and healthy working environment for our employees to promote the growth and development of the Company and its employees.

Lawful and Fair Employment

Halo Microelectronics strictly abides by the Labour Law of the People's Republic of China, the Labour Contract Law of the People's Republic of China and other relevant laws and regulations, insists on legal employment and establishes labor-employment relations with employees based on equality and voluntariness. The Company forbids all forms of coercion and forced labor, strictly implements the "Provisions on the Prohibition of Using Child Labour" and "Regulations on Special Protection for Underage Workers" of the State Council and the requirements of the EICC standard, and has established the "Child Labour and Adolescent Worker Protection Control Procedures". We are firmly opposed to the use of child labor. We explain the Company's social responsibility, environmental safety and health, ethics policies, and policies prohibiting child labor to the candidates at the time of recruitment.

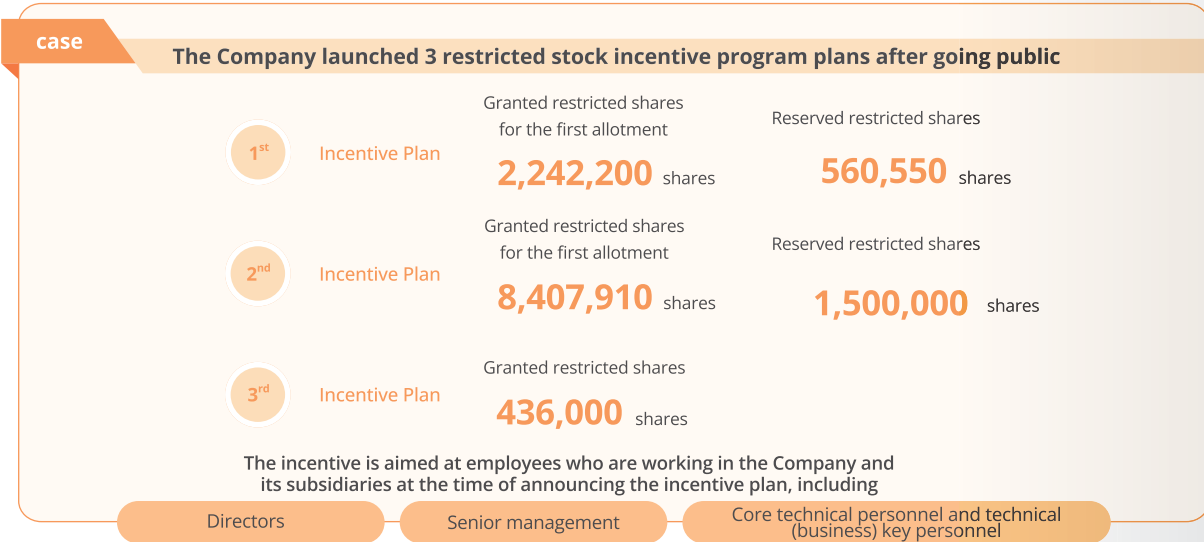
The Company adheres to the principle of "openness, equality, competition and merit" in recruitment and has set up a systematic recruitment process. High regard for internationally recognized human rights norms and the adherence to an equal and diverse employment policy are practiced in recruiting while we continuously reinforce equity and inclusion in the workplace, oppose any discriminatory behavior and eliminate any difference in the treatment of employees based on gender, ethnicity, faith, etc., and diversify our talent pool.



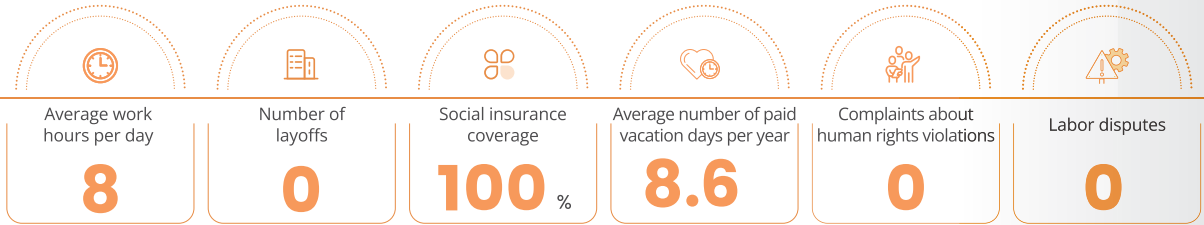
Safeguarding Employees' Rights and Interests

Improving Compensation and Benefits

Halo Microelectronics has been constantly establishing and improving the Company's long-term incentive program to attract and retain talents of distinction, fully mobilize the backbone of the Company, consolidate the Company's competitive advantage and effectively combine the interests of shareholders, the Company and the personal interests of the core group of employees to promote the long-term growth of the Company's business.



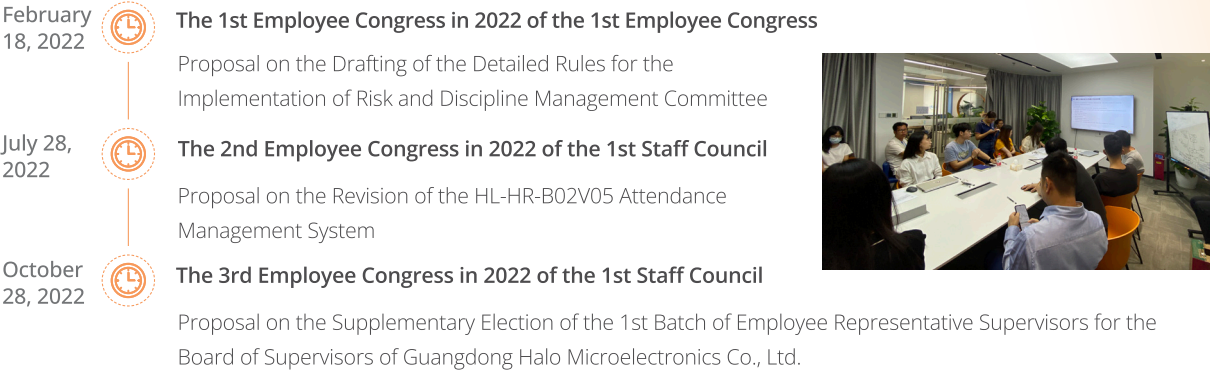
In addition to the above incentives, Halo Microelectronics offers its employees competitive compensation packages in the industry. We continuously optimize the compensation system and performance management system, improve the management system that matches posts with performance and develop a perfect benefits network. We have been paying the premiums for old-age pensions, medical insurance, unemployment insurance, maternity insurance, workers' compensation, and housing provident fund schemes, and purchasing commercial insurance for each employee, developing the Attendance Management System, and strictly enforcing the paid leave system to ensure employees have reasonable working hours and various leave rights.



Stressing on Democratic Management

Halo Microelectronics actively promotes the development of democracy in the Company, constantly mobilizes the initiatives of employees, stimulates their creativity, and strives for the democratization and reasoning of decision-making at the Company. In accordance with the Regulations of the Employee Congress and other relevant laws and regulations, the Company has formulated the Regulations of the Employee Congress and regularly convenes the Employee Congress to ensure the employees' rights to exercise democratic elections, decision-making, management and supervision, safeguarding sustainable growth of the Company.

About the 2022 Employee Congress



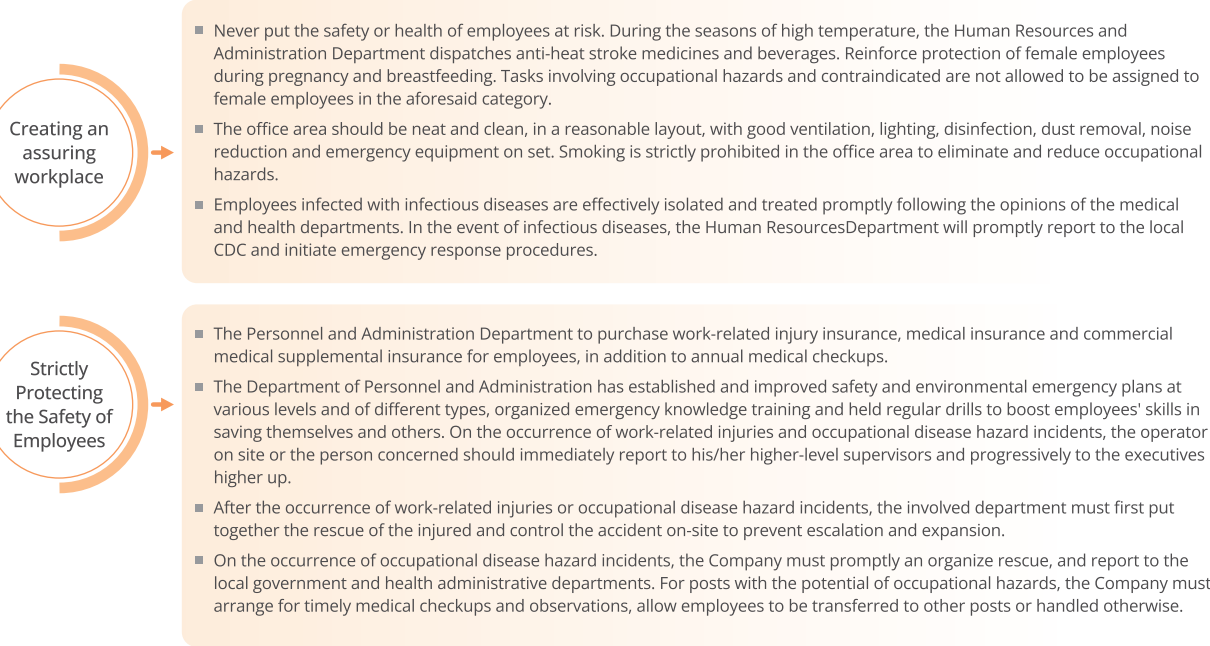
Guaranteeing Health and Safety

Halo Microelectronics strictly complies with relevant laws and regulations, effectively controls the sources of safety and health risks, and has established an occupational health and safety management system in line with ISO 45001 standards aiming to provide a healthy and safe workplace. We ensure that the drinking water, sanitation, fire safety, lighting and ventilation of the workplace meet the requirements of regulations, take appropriate measures to minimize the hazard factors in the working environment based on compliance with regulations, and conduct regular physical examinations and health training.



Established an occupational health and safety management system in line with ISO 45001

The Company has established an occupational health and safety management system in line with ISO 45001. We attach great importance to the occupational health and safety management of employees, defend the occupational health of employees, and promote the sustainable and healthy development of the enterprise.



Facilitating Employee Development

Halo Microelectronics always attaches importance to driving the initiatives of employees and actively encourages them to carry out projects on their own. The Company makes vigorous efforts to attract more talent and potential employees with the mindset of innovation and taking challenges and allows employees to take charge and responsibilities in work. In the meantime, we actively create learning and growth opportunities for employees and provide a wide variety of training to prompt the growth and innovation of both the Company and its employees.

Clearly Defining Career Path

Halo Microelectronics provides two career development paths. Employees can choose from managerial or technical sequences to continue vertical development. Or they can choose horizontal development. In addition to promotion within the sequence of his/her post, the Company allows internal transfer between different sequences taking into account differing development wills of the employees. The Company will provide the platform and opportunity for cross-sequence development after assessing the competency of the employee.



Diversified Training System

The Company supports a wide range of training and development programs designed to serve the needs of individual employees and the organization. With the expansion of the market and the adoption of new products and services, Halo Microelectronics realized that its employees must be equipped with new skills and concepts. Training and development programs allow the Company to meet current and future human resource needs.

Customized training helps employees adapt to the ever-changing environment

It is the responsibility of every employee of the Company to ensure that he or she has the appropriate knowledge and skills as the Company's business continues to grow. In the meantime, through on-the-job training or seminars, rotations or overseas training, the skills of employees are constantly improved to adapt and meet the ever-changing work environment and requirements. In the meantime, a continuous training system is established to enable employees to work more effectively at different stages of development. The Company continually provides opportunities for employees to acquire new skills and develop within the organization.



Compulsory courses	
■ Tutorial on Outlook and Sharepoint	■ Training on Intellectual Property
■ Training on Company Confidentiality System (including information disclosure)	■ Training on Internal Control Compliance
Elective courses	
■ Traditional Packaging Processing Time	■ COT Control Method
■ HL7138/9 Product Introduction and Fundamental Principle of Charge Pump	■ How A Chip Is Created from Scratch
■ PCB Design and Schematic Checklist Sharing and Discussion	■ Hybrid Converters
■ Introduction of Design Verification	■ OA (Pivot)
■ Control Method of Lowering Pressure	■ Product Introduction and Training (ACDC-related products)
■ OA Process Operational Tutorial for Board of Directors Office	

Facilitating the growth of more professionals and technical talents

The Company or departments will provide technical training for employees suiting their work nature and technical requirements on the post, and encourage and support employees in attending professional training or examinations in areas related to their posts. Once obtain accreditation or pass the examination and have submitted the certificate or transcript, the prize will be available after approval.



Rotational training injects diversified values into the Company

The Company will select employees with excellent performance and potential for further training. Training and education programs will vary to suit individualized needs, such as more rotational opportunities, external training, and face-to-face talk with international experts. In the meantime, the Company will also cover the training expenditures for the employees.

Training and education programs that suit individualized needs

- Rotational opportunities
- External training
- Face-to-face talk with international experts

Focusing on Employee Care

Halo Microelectronics is concerned with the demands of employees, cares for their lives, values team and organizational culture development actively organizes a variety of recreational activities, and helps employees blend in with the team. We intend to create an organizational atmosphere of warmth, unity and sincerity in which our employees love life and help each other, and take practical actions to boost happiness and a sense of belonging among employees.

10th anniversary of Halo Microelectronics, employee care is the top priority in creating a brighter future together

In November 2022, the Halo Microelectronics 10th anniversary ceremony and the "Down to the Brass Tacks · Fly High Toward Brilliance" Gala and Commendation Ceremony were held in Qingyuan of Guangdong. Employees of the Company from home and abroad and our business partners, representatives of intermediaries in the IPO, and investment institutions come together from all around the world to cherish the moment. Executives of the Company presented awards to employees of distinction, 10 of whom are the winners of the "Technology Innovation Award" and 21 are the winners of the "Entrepreneurial Contribution Award".



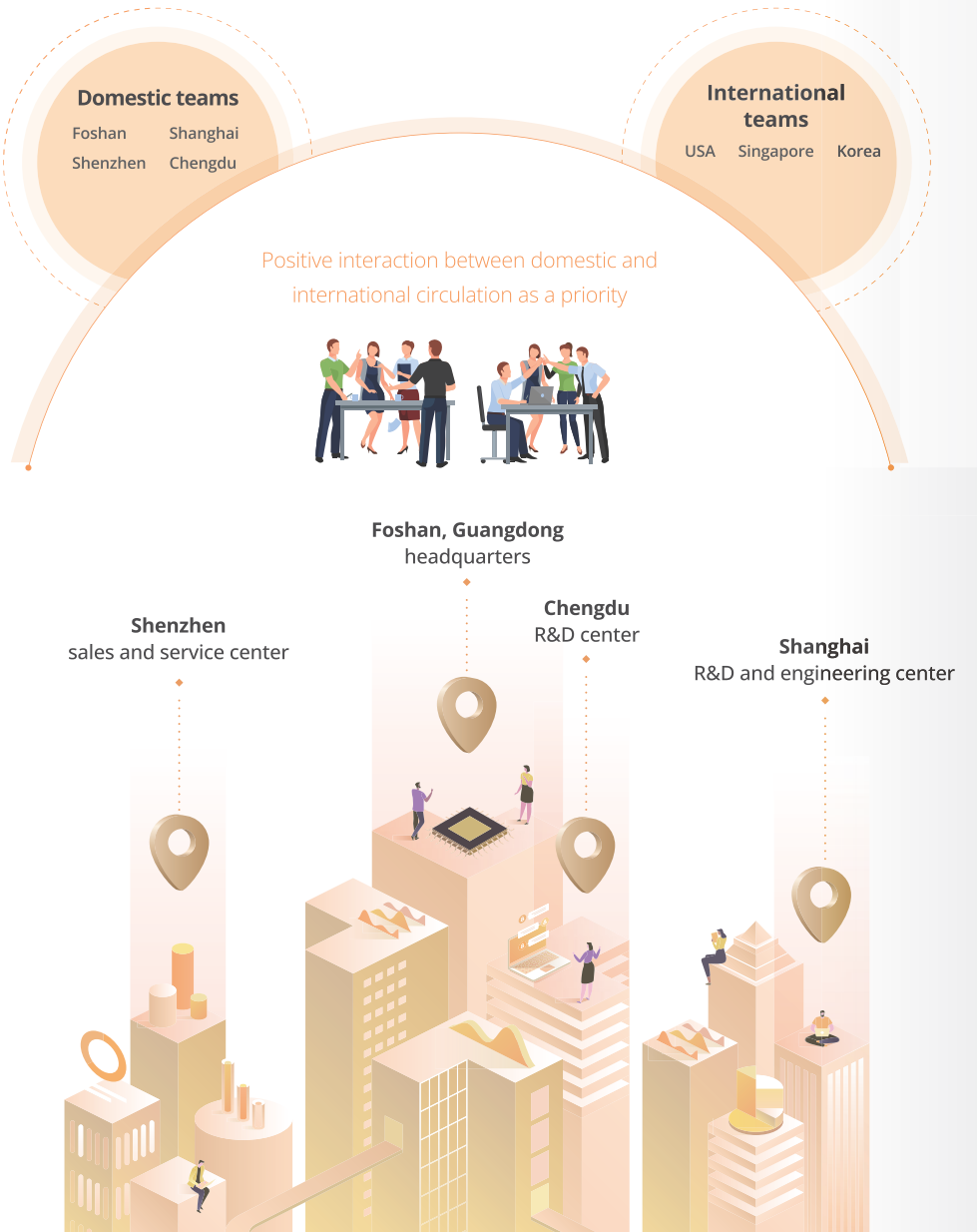
Social Contribution, Practicing Sustainable Development

Since its incorporation, the Company has been actively participating in social welfare activities, helping to train talents and caring for the youth; actively responding to national strategies, leading the development of the industry, supporting rural revitalization, and delivering warmth to society.

Strategic Coordinated Development

Regional coordinated development

With its international footprint, Halo Microelectronics has forged the “positive interplay between domestic circulation and international circulation with domestic circulation as a priority” with its domestic teams (in Foshan, Shanghai, Shenzhen, Chengdu) and international teams (in the USA, Singapore, and Korea). The Company has set up headquarters in Foshan, Guangdong, an R&D and engineering center in Shanghai, an R&D center in Chengdu, and a sales and service center in Shenzhen to promote economic exchanges and synergistic growth in various regions.



Creative “Chip” Talent Cultivation

Halo Microelectronics has been actively responding to government policies, and devoted to pushing for deep integration of enterprises, universities and research institutes, and the strategic talent cultivation of “technological innovation”. By combining the participation of enterprises and schools, Halo Microelectronics participated in coordinated talent cultivation in industry and academia in the integrated circuit to serve China’s blueprint of the development of the integrated circuit industry and promote creative “chip” talent cultivation for our integrated circuit industry.

Case

In June 2022, Halo Microelectronics teamed up with the University of Electronic Science and Technology to hold the “Halo Microelectronics Cup” intra-school competition of the China Graduate Student Create “Chip” Competition. To ensure the smooth running of the competition, Halo Microelectronics sponsored the University of Electronic Science and Technology to hold the intra-campus competition and dispatched our senior R&D staff to serve as judges in the defense session. The competition intends to establish the communication channel between students in integrated circuits, promote learning through the contests and create “chips” empowered by competition.

Halo Microelectronics sent its design director to serve as an external supervisor for the 2018 undergraduate integrated circuit design and integrated systems program of the University of Electronic Science and Technology. Topics are selected from specific engineering projects for selection by the University of Electronic Science and Technology students. In the end, we successfully supervised three students to complete their graduation designs.



Halo Microelectronics’ Design Director (in the middle) taking a photo with students under his tutorship from the University of Electronic Science and Technology

Halo Microelectronics endeavors to participate in an enterprise-school partnerships to forecast future-proof new technologies. Our partners encompass eminent research universities and research institutions from all around the globe. In early 2023, a patent entitled “Power Conversion Circuits and Electronic Devices” (CN202211387831X) was granted to Halo Microelectronics and Princeton University, a globally recognized research university with academic excellence and a wealth of research resources, whose Power Electronics Research Lab has been one of the leaders in the field.

The Halo Microelectronics-Princeton collaboration is working on a multi-output hybrid power supply architecture for the next-generation core architecture processors. The results of the project were presented at the 3D-PEIM conference of the International Institute of Electrical and Electronics Engineers Electronics Packaging Society (IEEE-EPS) in Orlando, USA, in early February 2023 and won the best paper award at the conference.

Halo Microelectronics’ enterprise-school partnership has taken hold by far. The Company is going to continue investing in its technology prowess to supply a steady stream of “chip” power to the development of new products!

Case

Supporting the Creative “Chip” Competition and Building the “Chip” Future Together

In August 2022, the "Huawei Cup" or 5th China Graduate Student Creative “Chip” Competition Finals and Award Ceremony came to a successful conclusion at the Hangzhou International Science and Technology Center of Zhejiang University. As a leading analog chip manufacturer in China, Halo Microelectronics participated in the designing of the contest in the analog circuit subject. In addition, Halo Microelectronics’ engineering director Mr. Hao Yueguo was invited as a judge for the finals.



Supporting the Creative “Chip” Competition and build the “chip” future together

The competition continues to receive wide attention from tertiary institutions, enterprises and media nationwide, attracting 503 teams from 96 institutions across the country, of which master's degree students accounted for 79%, and doctoral students 12%. The selected subject for this competition conflates the professionalism and pragmatism of the event, and is intended to induce excellent results, performances and style to build the bright “chip” future together!



Contributing to Social Welfare

Case

Halo Microelectronics donated to the Guicheng Chamber of Commerce Charity Fund

Halo Microelectronics actively practices its corporate social responsibility and commitment, and is taking steps to develop the framework of "Management of External Donations". As a member of the Guicheng Chamber of Commerce in Nanhai District of Foshan, Halo Microelectronics actively responded to the call to donate RMB 30,000 to the Guicheng Chamber of Commerce Charity Fund to support the "twinning" poverty alleviation project between Guicheng Street and Congjiang County of Guizhou Province, consolidating the poverty alleviation accomplishments in the region and bringing off rural development and revival.

The funds raised were used for the construction of "Guicheng Road" and infrastructure projects in Yanshai Village, Congjiang County, Guizhou Province. This boosts the effectiveness of the helping initiative, and further improves the living environment of the local communities, consolidating the poverty alleviation accomplishments in the region and contributing to rural revitalization.



Donate to the Guicheng Chamber of Commerce Charity Fund

RMB **30,000**

Contributing to Rural Revitalization

Case

Supporting Tourism in Qingyuan

In 2022, Halo Microelectronics held a series of events to celebrate its 10th anniversary and chose Qingyuan in Guangdong as the venue.



Revitalization of the tourism industry

On the one hand, we organized tours to the Xiaobei River, the Grand Canyon, etc., to relieve the pressure on the tourism industry in Qingyuan, and promote the "revitalization of the tourism industry" strategy in the region.



Folk culture revitalization

On the other hand, we published on our WeChat official account the information of the events and the review for the promotion of the scenery, culture, food, folk customs and other attractions of Qingyuan, and the development of the "folk culture revitalization" strategy for the region's rural revival.

COMPANY GOVERNANCE

- Efficient Operation to Create Long-Term Value
- Revamping Governance for Sustained Growth
- Compliance and Risk Control to Ensure Steady Business Operation
- Deepening Communication and Protecting Investment Interests

Meetings of Board of Supervisors held

14 times

Average tenure of Board of Supervisors members

3 years

Meetings of Strategy and Development Committee held

4 times

Meetings of Audit Committee held

3 times

Meetings of Nomination Committee held

0 times

Meetings of Remuneration and Evaluation Committee held

6 times

Average tenure of Board of Directors members

3 years

Meetings of Board of Directors held

16 times

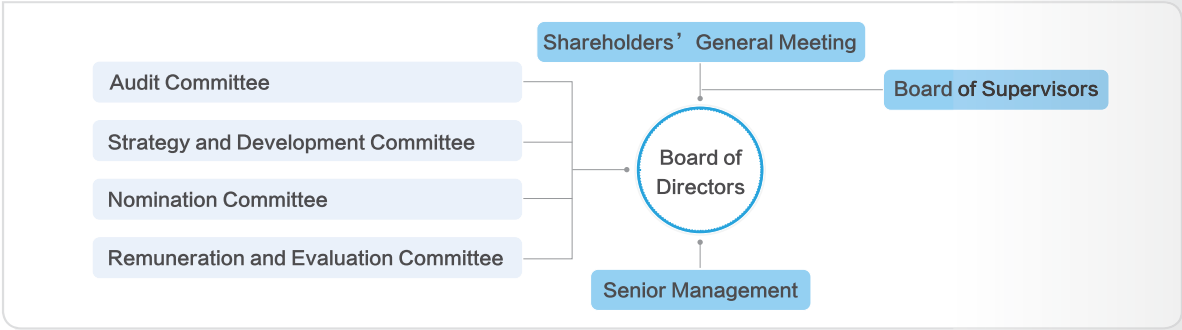


Efficient Operation to Create Long-Term Value

During the reporting period, the Company strictly complied with the Company Law of the People's Republic of China ("Company Law"), the Securities Law of the People's Republic of China, the Code of Governance of Listed Companies and other laws, regulations and regulatory documents, as well as the requirements of the Articles of Association of Guangdong CIDI Microelectronics Company Limited ("Articles of Association"), and continuously improved the corporate governance structure and operation framework consisting of the Shareholders' General Meeting, the Board of Directors and the management of the Company, improved the information disclosure system, enhanced communication with investors, continuously improved the level of corporate governance, and empowered the Company's high-quality growth.

The Company's Shareholders' General Meeting, Board of Directors and management have a clear division of power and responsibilities, operated orderly, exercise checks and balances in addition to effective collaboration, and the Company's governance structure operates effectively in accordance with the relevant laws and regulations and the Articles of Association of the Company.

In accordance with the Company Law and the Articles of Association, the Company has established the Shareholders' General Meeting, the Board of Directors, the Supervisory Committee and the senior management, among which the Audit Committee, the Strategy and Development Committee, the Nomination Committee and the Remuneration and Evaluation Committee are under the Board of Directors.



Shareholders' General Meeting

The General Meeting of Shareholders operates strictly in accordance with the provisions of relevant laws and regulations, the Articles of Association and the Rules of Procedure of the General Meeting of Shareholders. Shareholders perform their obligations and exercise rights in accordance with the law. The convening, holding and voting procedures of the shareholders' meeting were lawful, and the resolutions were legal and valid.

Board of Directors

The Board of Directors operates in accordance with the Company Law, the Articles of Association and the Rules of Procedure of the Board of Directors and relevant regulations. The Board of Directors is composed of 9 directors, including 3 independent directors. The members of the Board of Directors perform the rights and obligations conferred by the Company Law and the Rules of Procedure of the Board of Directors in accordance with the law, and played an active role in improving the corporate governance structure and regulating the operation of the Company.

The Company has established a special committee system of the Board of Directors, with four special committees, namely the Audit Committee, the Strategy and Development Committee, the Nomination Committee and the Remuneration and Evaluation Committee under the Board of Directors. Among these, the Audit Committee is responsible for matters related to the Company's audit; the Nomination Committee is responsible for the selection of the Company's directors and senior management; the Compensation and Evaluation Committee is responsible for researching the remuneration policies and programs for directors and senior management; and the Strategy and Development Committee responsible for researching and making recommendations on the Company's long-term growth strategies and major investment decisions.

Board of Supervisors

The Board of Supervisors of the Company consists of three supervisors, of which the proportion of employee representatives is not less than 1/3, and the Board is led by the Chairman of the Board of Supervisors. The members of the Board of Supervisors have fulfilled the rights and obligations conferred by the Company Law and the Rules of Procedure of the Board of Supervisors in accordance with the law, and have played an active role in improving the corporate governance structure and regulating the business operations of the Company.



Revamping Governance for Sustained Growth

Significant improvement in governance has occurred at Halo Microelectronics since 2022. The Company further completes its governance structure as a listed company with lawful power and responsibility, transparent authority and responsibility, division of duties, coordinated operation and effective checks and balances.

Refining Organizational Structure

Restructuring, setting up four business units of CPM, ACM, PC and IVS

In order to meet the needs of the end market and customers more quickly, flexibly and professionally, to clarify the development path and product planning, and to better define the strategic objectives and positioning, Halo Microelectronics has made a structural adjustment. The three business units of CPM, ACM and PC have been set up as of the end of the reporting period. In early 2023, the Company established the IVS Division for the newly absorbed product line of voice coil motor driver chips related to AF/OIS technology.

The business unit model is commonly adopted by international stalwarts in analogous chips. The establishment of the four business units of Halo Microelectronics suggests a new chapter of the Company. The leaders of Halo Microelectronics' four business units are all industry leaders who have worked for several internationally renowned semiconductor companies with extensive experience in product development, team management, business development and operations in their respective specialized areas.

Under their leadership, Halo Microelectronics will grow following a clearly defined road map, invest in the more advanced and complete offering of products with broader fields of application, continue to build up our overall competencies, boost growth momentum, and forge ahead to become an internationally competitive analog chip supplier.

Deepening Technology Empowerment

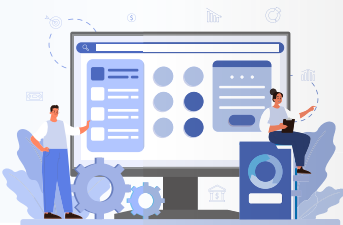
Halo Microelectronics has launched its office automation system and continues to refine process management.

OA Office System Development Program

The Halo Microelectronics OA office system development project was launched in February 2022. In addition to the basic approval process requirements, the OA system can also satisfy the needs of various departments for the systematization of daily work, such as the Finance Department and supply chain on ERP integration, the Engineering Department on project management, document management, and the Human Resources Administration Department on human resource management.

We could bring these off with OA:

- 1) Information Consolidation: consolidated information office with shared information
- 2) Consolidation of Work Streams: use one platform to handle multiple businesses with the OA as the approval center of work streams
- 3) Management Consolidation: all-round to address the problem of data silos in various systems and the obstacle to information's timely sharing

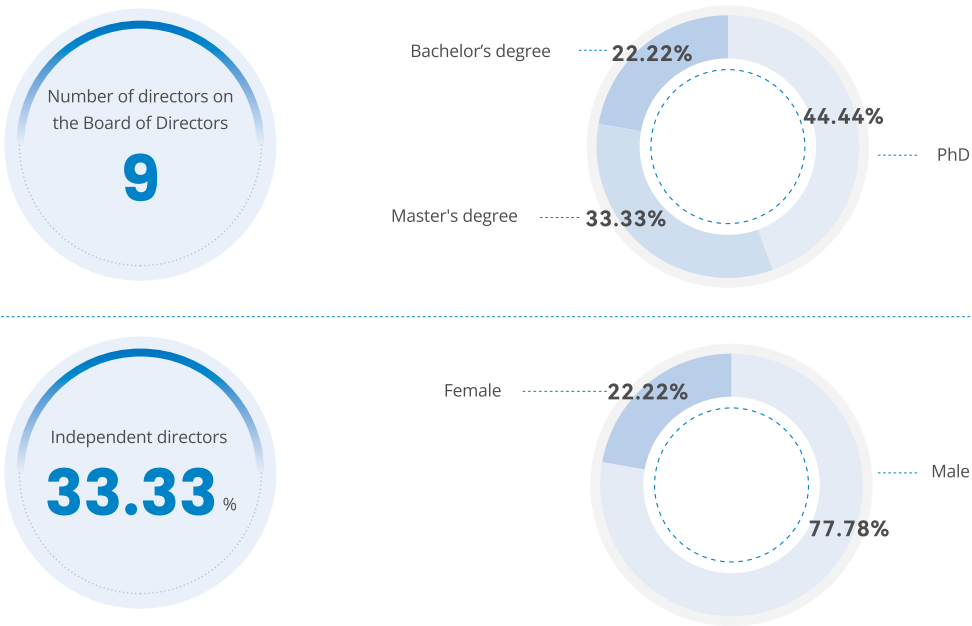


The OA system was officially launched in July 2022, marking the beginning of our journey to informatization of office activities and internal management, ushering in the new chapter of systematized management for Halo Microelectronics.

Beefing Up on Organizational Structure Development

Halo Microelectronics is devoted to further fortifying the organizational structure of the Company, developing a complete governance system to ensure the long-term steady growth of the Company. The Company is active in introducing independent directors from outside and has established an independent director system to bolster supervision and review of the Company's decisions.

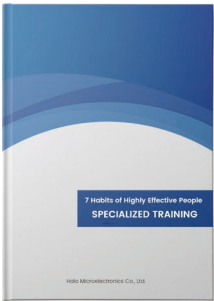
Independent directors play a crucial role in corporate governance, effectively protecting the interests of shareholders and safeguarding the health of the Company. Compared to internal directors and executives, independent directors are not in the Company's control and do not engage in the day-to-day business activities, which allows them to assess the Company's decisions and execution more objectively and impartially in fulfilling its supervisory functions. Independent directors review the Company's financial reports, decisions and significant matters with their expertise and experience, and provide recommendations and feedback for that matter. Additionally, independent directors can provide the Company with strategic guidance and advice on risk management, and assist the Company in developing long-term planning and risk control strategies. The proportion of independent directors at Halo Microelectronics stood at 33.33% during the reporting period.



Conducting Specialized Training

To further improve the awareness of compliance and standardize corporate governance of the controlling shareholders, directors and supervisors of the Company, and to implement the requirements from the regulators, the Company has organized several specialized training sessions attended by the controlling shareholders, directors and middle management.

Additionally, Halo Microelectronics conducted the "7 Habits of Highly Effective People" specialized training, discussed to reach consensus in cooperation taking into account the Company's missions and vision and promoted effective collaboration and synergistic efforts within the teams.



Stock Incentive Plan

Starting with the stock incentive plan, one of the most important ways for employee motivation in modern companies, Halo Microelectronics overhauled the incentive program for R&D talent, further accentuated the performance-oriented basis, highlighted motivation for innovation, created the atmosphere for precision motivation to forge effective incentives for backbone R&D staff and employees and supply endless power for the Company's strategic growth.

In 2021, Halo Microelectronics put forward the stock option incentive plan to grant 35,562,800 stock options to 103 recipients, valid for 10 years. The options were exercised 3 times in 2022. In addition, the Company also developed 3 Class II restricted stock incentive plans, granting a total of 13,416,700 restricted incentive shares to recipients. Through the stock (option) incentive plan and other associated supportive policies, Halo Microelectronics binds employees' personal interests close to the long-term growth of the Company and has successfully stimulated employees' enthusiasm and drive for innovation. We encourage employees to come up with creative thinking and practices, and attract and keep outstanding talent to safeguard the strategic development of the Company.



Highlight 1

Reducing agency costs and accentuating the value of human capital

Share incentive is an important initiative of Halo Microelectronics to streamline the talent incentive mechanisms. Halo Microelectronics has effectively improved its corporate governance structure, reduced agency costs, and aligned the interests of employees and the Company closely together. As a technical personnel-intensive company, the value of high-end technical personnel to Halo Microelectronics is immeasurable. Halo Microelectronics' stock incentive plan accentuated the value of human capital, conducive to the keeping and attracting of talent. A complete governance system sends more messages to the market on the business management performance, improves the value of human capital and further deepens the adjustment and perfection of governance structure. Stock incentives foster interconnection between the equity market, product market, capital market and employees, forging a closed loop of interplay to supply a steady stream of talent and power to Halo Microelectronics' growth.

Highlight 2

Bolster the relegation of duties to promote business metrics

The stock incentive is a vital means to boosting Halo Microelectronics' business performance. Halo Microelectronics' stock incentive program involves a number of backbone technical and business personnel. Stock incentive prompts the transformation of agents toward principals. The recipients of the incentives have certain expectations and look forward to increases in future benefits and personal value, conducive to the stability of Halo Microelectronics' talent backbone and providing a strong guarantee for the Company's R&D and operation to stay at a high level.

Compliance and Risk Control to Ensure Steady Business Operation

Improving Institutional Assurance

The Company has formulated a complete framework and procedures to develop responses to risks and opportunities and to clarify operational requirements on addressing, averting, reducing and accepting risks. Meanwhile, the company has developed comprehensive risk and opportunity management measures and internal control development and build upon risk resistance.

Risk and Opportunities Control Program

Representation	Risk Level	Probability and Consequences
S	Significant Risk	Extremely high probability and impact, turning the project from feasible to unfeasible, requiring proactive and effective preventive measures.
H	High Risk	High probability and impact, with tolerable losses, requiring certain preventive measures.
M	Moderate Risk	Moderate probability and impact, not affecting the feasibility of the project in general, and certain preventive measures should be taken.
L	Low Risk	Low probability and impact, not affecting the feasibility of the project.
N	Negligible Risk	Negligible probability and impact, with minimal effect on the project.

Analysis and assessment of risk must be carried out by the various functional departments to ensure the accuracy of risk assessment. For example, the nature of the risk, namely problems that may arise from the occurrence of risk Quantify, select and rank risks based on the level and importance of the risks analyzed.

Improving Supervision Effectiveness

The Company continued to perfect its internal control system to ensure compliance in business operations and steady growth of the Company.

Audit	Departmental development plan
<p>The Internal Audit Department conducted a total of 7 departmental special audits in 2022. In carrying out the audits, auditors were arranged to use systematic and regulated methods to supervise and evaluate risk management, the effectiveness of process control, truthfulness and fairness of financial information, and efficiency and effectiveness of business activities.</p> <p>The Internal Audit Department inspects and audits departmental affairs through on-site audit and investigation makes audit recommendations on systemic defects and major management loopholes in the audited department and supervises the work for rectification.</p>	<p>To buoy up the institutional development of the internal audit team, the audit framework needs to be further established and completed, audit processes be detailed to prompt auditors to follow auditing regulations strictly and perform the function of supervision by audit. Halo Microelectronics continued to perfect its internal audit framework, the feedback system for the audit results and the filing system for the audit work records and audit paper, beefed up the following up on rectification of audit matters and daily management of archives.</p>

Laying the Foundation for Integrity

The Company has developed the integrity and honesty management system and integrity and honesty codes of conduct and guidelines and has been conducting effective monitoring.

Honesty and integrity management system

To establish a good image of the Company, establish the business ethical standard of integrity and honesty among employees, and promote the integrity of the Company and employees, fair trade, integrity and self-discipline, the Company has developed the "Integrity and Honesty Management System".

Honesty and integrity code of conduct and guidelines

Halo Microelectronics developed the honesty and integrity code of conduct and guidelines, which is an important measure to regulate the behaviors of the employees and intended to create an honest, transparent, fair and responsible corporate culture. It stipulates that employees must not use their positions for personal gain, accept or solicit bribes, or use public funds in violation of the law in carrying out their work. In the meantime, employees shall observe the requirements of business ethics and comply with the provisions on integrity and honesty and keeping promises as required in various contracts, commitment letters and other legal documents the Company signed with other businesses. The supply chain management department also requested suppliers to strictly comply with the requirements that strictly prohibit bribes to customers and stakeholders, and sign undertakings or agreements. The constriction of strict norms and guidelines ensures the continued healthy development of Halo Microelectronics. In the meantime, employees performing their duties with fairness and integrity also win the trust and respect of the clientele and society.

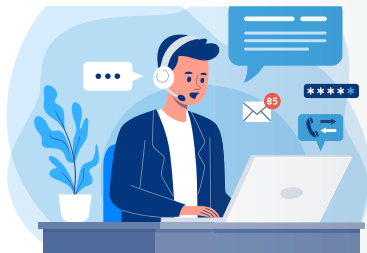
Implementation and supervision

The Company's Personnel Administration Department organizes one training session for employees annually which is beneficial to the establishment of the Company's credit, such as the study of laws and regulations, and the study of the framework on post duties.

The Company's Internal Audit Department conducts annual inspections of employees, including requiring employees involved in specific projects to fill out self-examination forms and verify, and investigating and meting out punitive actions via internal or external complaints and reports.

The Company has set up a complaint hotline and email to accept complaints or accusations by the general public and within the Company on transgressions by employees.

Email: HL.Integrity@halomicro.com



Deepening Communication and Protecting Investment Interests

Deepening Investment Relations

Halo Microelectronics has been devoted to beefing up communication and exchange with investors and continued to deepen management of relations with investors. The Company actively responds to the concerns and questions of the market and investors by hosting the shareholders' general meetings, investor exchanges, road shows, etc., and discloses its matters on corporate development and operating results to investors in a comprehensive, timely and transparent manner to protect the right to information, participation and supervision of investors. Halo Microelectronics will continue to stick with the investor's first principle, uphold the management philosophy of honesty, transparency and standardization, improve management of investor relations and provide better services and return of higher values to investors.

2022					
Shareholders' general meetings held	Attendance rate of directors at the shareholders' general meetings	Number of shares held under different categories of shareholders	Number of road shows	Number of investor exchanges	Cumulative number of investors received
6	98.15 %	405,300,000	4	33	1210

Protecting Investment Interests

Halo Microelectronics has developed the investor relations management framework. The various departments divvy up the duties and cooperate. The Board of Directors is responsible for formulating the Company's investor relations management system and the Board of Supervisors supervises its execution. The secretary of the Board of Directors is in charge of investor relations management of the Company, including planning, arranging and organizing various investor relations management events. The Office of the Board of Directors is responsible for the day-to-day affairs of investor relations management, organizing and coordinating the activities in the management of the Company's investor relations, and providing comprehensive and systematic training to the Company's senior management and associated personnel. The various departments worked together to communicate with investors through multiple channels and in multiple dimensions and strove to communicate conveniently and effectively to facilitate investor participation. Halo Microelectronics continued to deepen investor relations management and is devoted to establishing and maintaining sound communication and partnership with the vast community of investors to boost transparency of the Company and trust by the investors.

Compliant Full Disclosure

Halo Microelectronics compiled and published 4 regular reports and 76 temporary announcements in 2022.

In accordance with the relevant regulations of the China Securities Regulatory Commission, the Shanghai Stock Exchange and the Articles of Association of the Company, Halo Microelectronics has established a strict information disclosure management system and exercised the duty of information disclosure. The Company prepares and discloses annual, interim and quarterly reports as per the requirements of the law and ensures that the full text and summaries are disclosed promptly via designated media. The Company will immediately disclose relevant information and the possible impact on the Company and its investors to the public following the occurrence of events that may have a significant impact on the price of the Company's securities and its derivatives in the market. Directors, supervisors and senior management, as well as the chairman, general manager and financial officer of the Company bear the respective responsibilities in the course of information disclosure. Halo Microelectronics will continue to perfect its information disclosure framework, and improve the truthfulness, accuracy, completeness, timeliness and fairness of information disclosure to better meet the legitimate rights and interests of investors and the market's requirements of fairness, openness and transparency.

In 2022
by Halo Microelectronics

Number of regular reports
compiled and published

4

Number of temporary
announcements published

76

PROSPECTS

Looking forward, Halo Microelectronics will continue to uphold the core values of being “upright and honest, passionate in innovation, stay on top of the competition, collaborate for win-win”, start with technology to continuously accumulate experience and technical advantages, enrich product portfolio, maintain high efficiency and high hit rate in product development, and promote the implementation of new technologies and new products to bring off synergistic growth in scale, quality and efficiency. In the meantime, we bring together and offer attractive benefits to talent from home and abroad, provide solid assurance and platform for development to employees, continue to deepen the concept of green development, contribute to the reaching of the “dual-carbon” objective, further consolidate and upgrade the network of suppliers and client, buoy up accountability management, focus on maintaining customer relations, strictly guarantee the quality of products, insist on precision management of processes, continue to improve corporate governance, invest in the development of risk control compliance framework, boost the supervision on integrity, improve quality of information disclosure, reinforce communication with investors and power up high-quality corporate growth.

The handle of the Big Dipper turns North last night, and this morning a new chapter of the Company is ushered in. In 2023, Halo Microelectronics drove ESG practices with its consistent perseverance in “every cloud has a silver lining”, the resolve to “ride the waves”, and its accountable corporate culture and attitude. The Company continued to push for the integration of ESG thinking in the Company's growth road map, governance structure and R&D development, etc., dedicated to investing in its technical prowess revolving around the trend of electrification, amortization and digitization, seized the historic opportunity of foreign brand substitution movement, specialized in making “chips” with the artisanship and contributed to the rise of China's semiconductor industry.

Appendix

Key Performance Indicator

Environmental Performance Sheet

Use of Resources

Energy	Unit	2022
Outsourced electric power	MWh	333.86
Energy consumption intensity	MWh/RMB 10,000 income	0.01
Water resources	Unit	2022
Water consumption	m³	1,136.00
Water consumption intensity	m³/RMB 10,000 income	0.02

Greenhouse Gas (GHG) Emissions

GHG	Unit	2022
Total GHG emissions (Scope 1 & 2)	tCO ₂ e	193.97
Direct GHG emissions (Scope 1)	tCO ₂ e	—
Indirect GHG emissions (Scope 2)	tCO ₂ e	193.97
GHG emissions intensity	tCO ₂ e/RMB 10,000	0.0035

Others

Indicator	Unit	2022	2021	2020
Office area	m²	4,910.89	4,264.89	2,905.42
Total e-waste	piece	12	—	20

Social Performance Sheet

Technological Innovation

Indicator	Unit	2022	2021	2020
Total R&D investment	million (RMB)	202	150	181
Proportion of R&D investment	%	36.19	32.35	79.44
Proportion of R&D personnel	%	58.93	61.50	61.80

Patents

Indicator	Unit	2022
Patents	—	42
Patents of inventions	—	42
Patents of domestic inventions	—	32
Patents of USA inventions	—	10

Suppliers

Indicator	Unit	2022	2021	2020
Number of suppliers	—	28	23	14
ISO 9000 certified	—	13	12	10
ISO 14000 certified	—	13	12	10
ISO 45001 certified	—	11	11	10
China (the Chinese mainland)	—	14	11	5
China (Hong Kong, Macao and Taiwan) and foreign countries	—	14	12	9

Note: “number of suppliers” means all the suppliers with whom the Company does transactions with (including but not limited to sample production, mass production, etc.) in the current year, among which suppliers who have shipped to the Company for mass production in each one of the above years have obtained “ISO 9000 certification” and “ISO 14000 certification”.

Customer evaluation

Indicator	Unit	2022	2021	2020
Customer satisfaction	%	96	95	92

Employee Relations

Indicator	Unit	2022
Total number of employees	person	224
Female	%	34.4
Social insurance coverage	%	100
Average number of paid vacation days per year	day	8.6
Complaints about human rights violations	—	0
Labor disputes	—	0

Governance Performance Sheet

Board of Directors

Indicator	Unit	2022
Number of directors on the Board of Directors	—	9
PhD	%	44.44
Female	%	22.22
Independent directors	%	33.33
Meetings of Board of Directors held	time	16

GRI Standards Index

Reporting Framework	GRI Standards Serial No.
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Appellations

In this report unless the context otherwise requires, the following expressions have the following meanings:

Definitions		
“Company”, “Our Company”, “Halo”	refers to	Halo Microelectronics Co., Ltd.
“Halo Hong Kong”	refers to	Halo Microelectronics (Hong Kong) Co., Ltd., the holding subsidiary of the Company
“RMB, RMB 10,000, RMB 100 million”	refers to	Renminbi or Chinese yuan, 10,000 yuan, 100 million yuan
“Company Law”	refers to	Company Law of the People's Republic of China
“Articles of Association”	refers to	The Articles of Association of Halo Microelectronics Co., Ltd. in force and its previous revised editions
“CSRC”	refers to	China Securities Regulatory Commission
“MTK”	refers to	MediaTek Inc.
“OPPO”	refers to	Guangdong Oppo Mobile Communication Co., Ltd.
“Qualcomm”	refers to	Qualcomm Inc.
“vivo”	refers to	Vivo Mobile Communication Co., Ltd.
“Samsung”	refers to	Samsung Electronics Co., Ltd.
“Xiaomi”	refers to	Xiaomi Corporation
“HONOR”	refers to	Honor Device Co., Ltd.
“Transsion”	refers to	Shenzhen Transsion Holdings Co., Ltd.
“Google”	refers to	Google Inc.
“Logitech”	refers to	Logitech International SA
“Audi”	refers to	Audi AG
“Hyundai”	refers to	Hyundai Motor Company
“Kia”	refers to	Kia Motors Corporation
“XPENG”	refers to	XPeng Inc.
“Hongqi”	refers to	A high-end vehicle brand of China Faw Group Co., Ltd.
“AITO”	refers to	A new energy vehicle brand of Seres Group Co., Ltd.
“Changan”	refers to	Chongqing Changan Automobile Co., Ltd.
“Yura Tech”	refers to	Yura Tech. Co., Ltd.
“AEC-Q100”	refers to	Automotive Electronics Council–Qualification 100, developed by Automotive Electronics Council (AEC), is the verification standard of automotive specifications, the general standard of automotive electronic system, as well as the quality control standard for the reliability and standardization of automotive chips.
“Boost”	refers to	One of the three basic topologies of the switching power supply. Boost circuit steps up the input voltage and generates an output average voltage that is greater than the input voltage.
“DC/DC”	refers to	Direct Current / Direct Current. It is a technology and method to convert a source of direct current from one voltage level to another by stepping up or stepping down the voltage.

Definitions		
“Fabless”	refers to	Fabrication-Less, the fabless integrated circuit business model, in which manufacturers focus on the R&D, design and sales of chips, while outsourcing the wafer fabrication, packaging and testing to other specialized manufacturers.
“ppm”	refers to	Parts per million, used to measure the defective rate, which means the number of defective units in one million units.
“Type-C”	refers to	A type of USB connector. It is a reversible connection with thinner design, higher transfer rates and more powerful transmission.
“super-fast charging”	refers to	One of the fast charging technologies, usually refers to such technologies that provide charging power greater than 30 W.
“charge pump”	refers to	A kind of non-inductive DC/DC converter that uses capacitors for energy storage to raise or lower voltage and current.
“interface protection”	refers to	Provide protection against overpressure, overcurrent, overtemperature, surge, etc., for circuit connection ports, including the USB port.
“packaging”	refers to	The process of transforming the semiconductor integrated circuit on the wafer into usable chips with carrier and pins through wires and various connection means for the purposes of placing, fixing, packaging and protecting chips, as well as enhancing its electrothermal performance.
“integrated circuit” or “IC”	refers to	A device fabricated by integrating a large number of components of a circuit into a single crystal wafer.
“wafer”	refers to	The silicon wafer used in the fabrication of integrated circuit. It can be fabricated into various circuit element structures after processing and turn into integrated circuit products with specific electric functions.
“Li-ion battery fast charging”	refers to	Fast charging technology based on lithium-ion batteries.
“RoHS”	refers to	Restriction of Hazardous Substances, a mandatory standard formulated by EU, was put into effect on July 1, 2006. It is mainly used for regulating the standard for materials and technologies in electronic and electrical products, so as to make such products more conducive to human health and environmental protection.
“REACH”	refers to	Abbreviation for the EU regulation concerning the Registration, Evaluation, Authorization and Restriction of Chemicals. It is a chemical regulation system that entered into effect on June 1, 2007. It has strict restrictions on the use of a series of chemicals greatly harmful to human body and environment. The amount of any substance of very high concern with an annual use of more than 1 metric ton in the commodity is required to be less than 0.1% of the total weight, otherwise, registration, notification, authorization and other obligations shall be performed.

Questionnaire

Dear Reader,

Thank you very much for taking your precious time to read this ESG Report. We sincerely look forward to your comments on this report and your valuable suggestions so that we can continue to improve our work and enhance our capability and improve our level of fulfilling social responsibility work!

Multiple-Choice Questions (Please place a check mark (√) in the answer box that corresponds to your response.)

Which of the following currently describes your role for Halo Microelectronics?

- ☐Government
- ☐Investor
- ☐Employee
- ☐Customer
- ☐Supplier/Contractor
- ☐Partners
- ☐Peer
- ☐Community and public
- ☐Media
- ☐NGO
- ☐Others (please specify)

Your comment on Halo Microelectronics’ performance of fulfilling social responsibility:

- ☐Excellent
- ☐Good
- ☐Average
- ☐Bad

Your overall comment on this report:

- ☐Excellent
- ☐Good
- ☐Average
- ☐Bad

In your opinion, the quality of social responsibility information disclosed in the report is:

- ☐Excellent
- ☐Good
- ☐Average
- ☐Bad

In your opinion, the structure of this report is:

- ☐Excellent
- ☐Good
- ☐Average
- ☐Bad

In your opinion, the layout design and presentation of the report:

- ☐Excellent
- ☐Good
- ☐Average
- ☐Bad

Open Question

What do you expect from Halo Microelectronics' work in ESG management or social responsibility?

You can provide us with your feedback via:

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