

**2023**

ESTUN AUTOMATION CO., LTD  
**Environmental, Social and  
Governance (ESG) Report**





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# Message from the Chairman

For Estun, 2023 was a year filled with challenges and unique experiences. Over the past three decades, from our inception through phases of growth, we have navigated numerous challenges. As a leader in China's industrial robotics sector, we have remained closely aligned with national strategic development initiatives and adhered to our core values of "Open, Innovation, Striving, Growing Together." We have actively promoted intelligent manufacturing to empower the industry and built an advanced manufacturing ecosystem in China. In 2023, we pressed forward, achieving an annual revenue of RMB 4.652 billion, representing a growth of 19.87% compared to the previous year. Estun robots' shipments in the Chinese market reached 24,000 units, reaffirming our position as the top domestic brand.

**We stay true to our foundational goals to make manufacturing smarter.** In collaboration with our partners, we have developed safe, energy-efficient, highly effective, and flexible production lines. By integrating automation, intelligence, and digitalization, we facilitate the green and low-carbon transformation of the industrial manufacturing sector, ushering in a new era of smart manufacturing. We have fostered collaboration across industry, academia, and research, establishing innovation consortia with scientific institutions and universities. We actively lead and participate in the creation of national and industry standards, strengthen partnerships with industrial chain allies, and establish extensive strategic alliances and close cooperative

relationships. These efforts promote resource sharing and mutual benefits, thereby contributing our wisdom and strength to the industry's advancement.

**We pursue technological innovation to enhance quality.** We are committed to the development of proprietary core technologies and have continued to increase our investment in R&D, which amounted to RMB 503 million in 2023. We have established innovation platforms at the national and provincial levels and among high-tech enterprises, continually attracting top global R&D talents. We have received accolades such as the National Smart Manufacturing Demonstration Factory, Jiangsu Provincial Smart Manufacturing Demonstration Factory, Second Prize of Jiangsu Provincial Science and Technology Award, and Second Prize of Shanghai Scientific and Technological Progress Award, driving the rapid transformation of scientific and technological achievements into new productive forces. We prioritize quality and customer satisfaction, implementing comprehensive quality management measures that enhance product and service standards across all operational facets from technology and production to sales, earning the respect and trust of our customers through professionalism.

**We advance standardized governance to ensure robust development.** We have continuously refined our governance structure, strengthened risk management, upheld business ethics, and enhanced supply chain management to foster the

Company's sustained and healthy growth. In 2023, we executed comprehensive corporate management reforms, optimized our organizational structure, and established a solid foundation for high-quality development. To effectively implement our ESG (Environmental, Social and Governance) objectives, we formally established a Board ESG Committee, creating a top-down management decision-making and execution mechanism focused on ESG, thus driving the Company's sustainable development comprehensively.

**We are committed to the dual-carbon strategy to make the world greener.** We proactively align with global trends towards green and low-carbon development, integrating these principles into our corporate strategy and daily operations. We progressively undertake the identification and analysis of climate risks and opportunities, developing action plans to enhance the Company's adaptability to climate change. To actively achieve the national "carbon peak" and "carbon neutrality" goals, we develop low-carbon products and solutions through whole lifecycle green design, promote energy transformation, and pursue green production to achieve energy conservation and emissions reduction. Additionally, we work to enhance resource efficiency, reduce waste emissions, fully uphold corporate environmental responsibilities, and promote harmonious coexistence between humanity and nature.

**We uphold the principle of shared development to improve life quality.** Embracing a "people-oriented, respect for talent" philosophy, we highly value employee rights and welfare, fostering a diverse, inclusive, and open workplace. We continually refine our talent development programs and models, establish a scientific career development system, and improve occupational health and safety management systems. Focusing on the physical and mental health of our employees, we strive to enhance their sense of happiness and belonging. We actively practice corporate social responsibility by engaging in public education, assisting farmers through consumer support, and promoting employment, aiming at giving back to society. We encourage and support employee participation in various volunteer activities, achieving a harmonious unity of social responsibility and corporate development.

After thirty years of perseverance, a new chapter begins. We recognize that only by continuously adapting to change can we lead the trends, and only by daring to face challenges can we achieve significant development leaps. In 2024, we will continue to advance, embracing a new era filled with unknowns and challenges. We strive to become a respected and recognized international brand, crafting a new chapter in Estun's sustainable development.

**Wu Bo**

Chairman of Estun Automation Co., Ltd.

# About Estun

## Company Overview

Founded in 1993, Estun (Stock Code 002747.SZ) is dedicated to developing a comprehensive automation ecosystem. By focusing on the independent R&D of core technologies, Estun has established a robust foundation for global expansion and has become a respected international brand. Over three decades, the Company has cultivated major businesses in automation core components and motion control system, robot and intelligent system engineering, and digital products and services, thereby offering competitive, integrated automation solutions to the industry.

## Corporate Culture

### Vision & Mission

Enjoy your life from automation:

Smarter Manufacturing,  
Greater Quality,  
Better Life,  
Greener World!

### Core Values



Open



Innovation



Striving



Growing Together

### Slogan

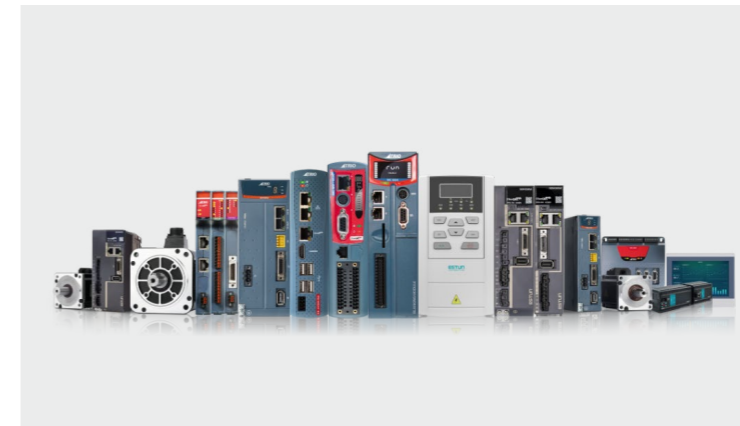
For a better life!

Always · Doing · Better



## Core Business Divisions

### Automation Core Components and Motion Control System



Estun offers a comprehensive array of AC servo systems, inverters, PLCs, touch screens, vision products, and motion control systems centered around the Trio control system. These intelligent unit products integrate motion control and robotics, providing customers with tailored automation solutions that range from single-axis applications to single-machine and single-unit systems.



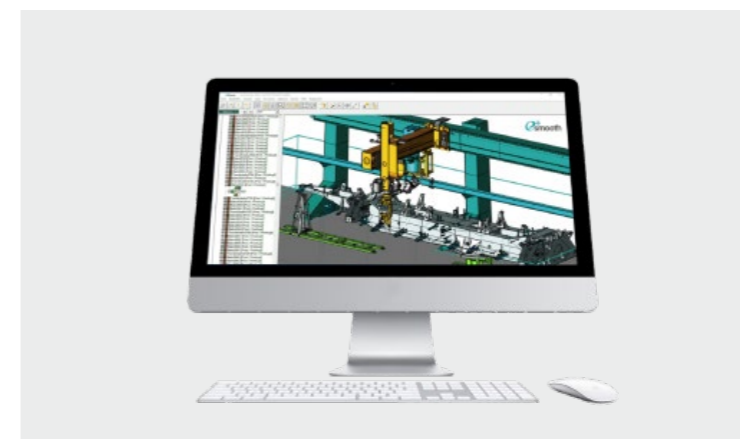
### Industrial Robots and Intelligent Manufacturing Systems



Specializing in six-axis robots, Estun boasts an extensive lineup of 76 industrial robot models with load capacities ranging from 3kg to 700kg. These robots provide innovative solutions to sectors such as new energy, welding, metal processing, 3C electronics, and construction machinery.



### Digital Products and Services



Leveraging its control over automation equipment data entry points, Estun offers a remote access platform and various digital value-added services through its unified cloud platform and the OPCUA communication protocol.



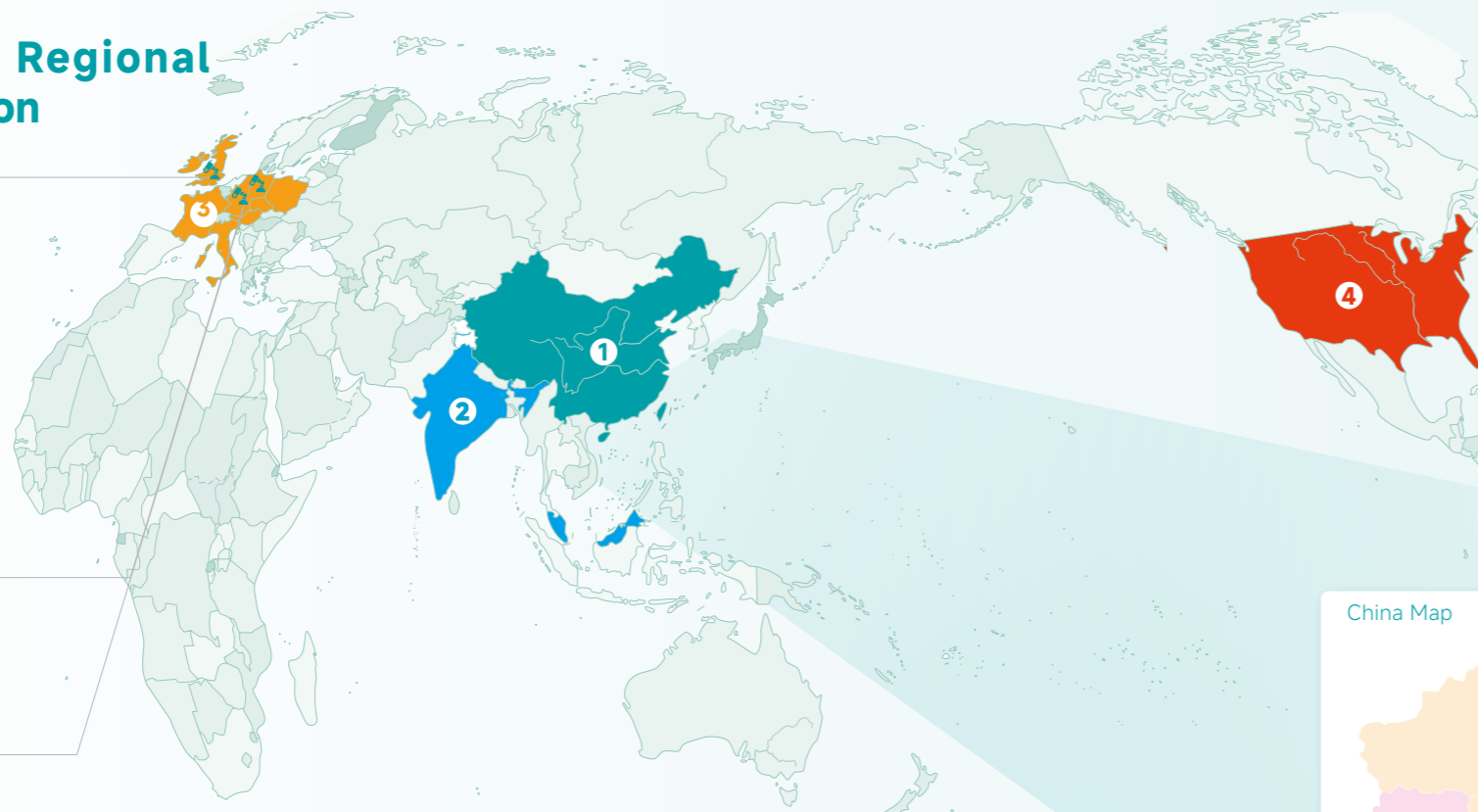


# Business Regional Distribution

Trio Motion Control Manufacturing Base in the UK

Cloos Welding Robot Manufacturing Base in Germany

M.A.i. Intelligent Systems Engineering Manufacturing Base in Germany



- Estun Automation (Hubei) Manufacturing Base
- Southwest China Regional Headquarters (Chengdu)
- Central China Regional Headquarters (Changsha)
- Southern China Regional Headquarters (Foshan)

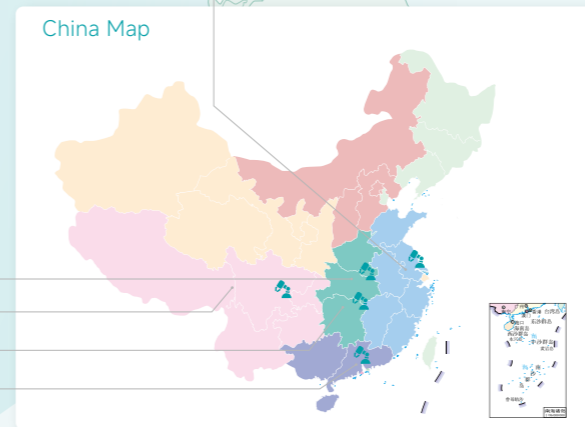
Global Manufacturing Bases

11

Global Service Points

75

- Nanjing, China
- Estun Automation Headquarters
  - Robot Manufacturing Base
  - Estun Automation Motion Control System Manufacturing Base
  - Estun Machining Manufacturing Base
  - Estun Automation Intelligent Manufacturing Base



## Global Service Network (INTERNATIONALIZATION)

### 1 China

Eastern China	Southern China	Central China
Headquarters in Nanjing	Shunde Service Center	Changsha Service Center
Wuxi Office	Xiamen Office	Wuhan Office
Changzhou Office	Dongguan Office	Zhengzhou Office
Suzhou Office	Shenzhen Office	
Shanghai Office	Foshan Office	
Hangzhou Office		
Ningbo Office		
Jinhua Office		
Jinan Office		
Qingdao Office		
Southwestern China	Northern China	Northwestern China
Chengdu Service Center	Tianjin Service Center	Xi'an Office
Chongqing Office		

### 2 Asia

Pune, India: Trio Indian Subsidiary/Cloos Indian Subsidiary  
Kuala Lumpur, Malaysia: Malaysian Subsidiary

### 3 Europe

London, UK: Trio Headquarters  
Staffordshire, UK: Cloos UK Subsidiary  
Milan, Italy: European R&D Center  
Kronach, Germany: M.A.i. Headquarters  
Haiger, Germany: Cloos Headquarters  
Other Cloos subsidiaries in Europe: Belgium, the Netherlands, Austria, Spain, Turkey, Czech Republic, and Hungary

### 4 America

Pennsylvania, USA: Trio North American Subsidiary  
Illinois, USA: Cloos North American Subsidiary  
Mexico: Cloos Mexican Subsidiary  
Brazil: Cloos Brazilian Subsidiary

## Global Manufacturing Bases(MANUFACTURING BASE)

Nanjing, China



Estun Automation Headquarters Robot Manufacturing Base



Estun Automation Motion Control System Manufacturing Base



Estun Machining Manufacturing Base



Estun Automation Intelligent Manufacturing Base



Southern China Regional Headquarters (Foshan)



Southwest China Regional Headquarters (Chengdu)



Central China Regional Headquarters (Changsha)



Estun Automation (Hubei) Manufacturing Base



Trio Motion Control Manufacturing Base in the UK



Cloos Welding Robot Manufacturing Base in Germany



M.A.i. Intelligent Systems Engineering Manufacturing Base in Germany



# Responsibilities in 2023

## Responsibility Performance

### Empowerment: Making Manufacturing Smarter

R&D investment:	Total R&D staff:	Percentage of R&D staff:	Total number of authorized patents and software copyrights:
RMB <b>503</b> million	<b>1,201</b>	<b>31.19</b> %	<b>949</b>

### Professionalism: Enhancing Quality

Product defect rate decreased year-over-year:	Initial out-of-box pass rate:	Quality training sessions held:	Number of quality training attendees:	Customer satisfaction rate:
<b>19</b> %	<b>99.58</b> %	<b>60</b>	<b>3,569</b>	<b>87.2</b>

### Governance: Ensuring More Robust Development

Operating revenue:	Total taxes paid:	Anti-corruption training coverage:	Total number of suppliers:
RMB <b>4.652</b> billion	RMB <b>239</b> million	<b>100</b> %	<b>499</b>

### Low Carbon: Making the World Greener

Environmental protection investment:	EHS (environmental, health, and safety) target achievement rate:	Greenhouse gas emission intensity:	Environmental compliance rate:
RMB <b>1,928,000</b>	<b>100</b> %	<b>2.06</b> tons of CO <sub>2</sub> equivalent per RMB 10,000 of revenue	<b>100</b> %

### Sharing: Improving Life Quality

Total number of employees:	Total online employee training hours:	Charitable contributions:	Investment in production safety:
<b>3,851</b>	<b>81,736</b>	RMB <b>2,269,900</b>	RMB <b>6.66</b> million

## Honors & Awards

<b>National Smart Manufacturing Demonstration Factory</b> Ministry of Industry and Information Technology	<b>Jiangsu Provincial Smart Manufacturing Demonstration Factory</b> Industry and Information Technology Department of Jiangsu
<b>Jiangsu Provincial Entrepreneurship and Innovation Team</b> Jiangsu Provincial People's Government	<b>Second Prize of Jiangsu Provincial Science and Technology Award</b> Jiangsu Provincial Department of Science and Technology
<b>Second Prize of Shanghai Scientific and Technological Progress Award</b> Shanghai Municipal People's Government	<b>Second Prize for Scientific and Technological Progress in Mechanical Industry</b> China Machinery Industry Federation, Chinese Mechanical Engineering Society
<b>Industrial Robot Annual Innovation Product Award</b> Gongkong.com	<b>Annual Excellence Brand Award</b> Robotchina.com
<b>Industrial Robot Excellent Brand Award</b> Imrobotic.com	<b>CMCD 2023 Most Influential Brand in Motion Control</b> Chuandong.com
<b>2023 China Industrial Automation and Digitization Industry Annual Brand Influence Enterprise Award</b> OFweek	<b>New Energy Pioneer Award</b> GGII Photovoltaic New Energy Storage Conference





# ESG Governance

## ESG Management

Estun has established and is progressively refining its ESG governance framework to enhance the Company's ESG governance standards. In 2023, aiming to promote the Company's sustainable and high-quality development, the Board of Directors approved the formal establishment of the Environmental, Social and Governance (ESG) Committee. The Committee adopts a three-tiered ESG management structure led by the Board, ensuring a comprehensive top-down approach to ESG management. We also developed the *Estun Automation Co., Ltd. Board Environmental, Social and Governance (ESG) Committee Work Rules* to promote the effective implementation of the Company's ESG initiatives.

The Company continues to focus on the internal and external impacts of its ESG and sustainability initiatives. In 2023, we concentrated on the three key areas of environmental protection, social responsibility, and governance standards and developed targeted ESG strategies. These strategies are constantly updated to ensure a more directed approach towards fulfilling our ESG goals. Furthermore, we have integrated ESG management practices into every aspect of our production operations and all business decisions.

Received an **AA** rating from the SZSE CNI ESG Evaluation

Received an **A** rating from the Wind ESG Rating

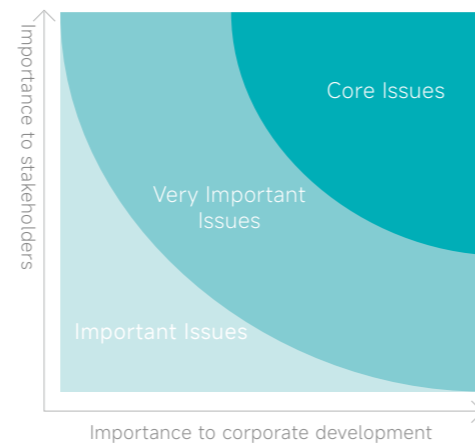


## Material Issues Analysis

In order to gain a deeper and more accurate understanding of the expectations and demands of our stakeholders, and to enhance the relevance and substance of our reports, we conduct a careful evaluation of environmental, social and governance (hereafter referred to as "ESG") issues. This evaluation takes into account aspects such as peer attention, regulatory requirements, and the importance of these issues to our business operations. We then classify these issues into core, very important, and important categories, subsequently forming an ESG Materiality Matrix, which is then reported to our Board of Directors and management for further discussion. Through this process, we aim to continually improve our ESG management, ensuring that our development strategy aligns with key issues and is balanced with the demands of our stakeholders.

### Important Issues

Core Issues	Very Important Issues	Important Issues
<ul style="list-style-type: none"> <li>R&amp;D and innovation</li> <li>R&amp;D and application of green technologies and products</li> <li>Product quality management</li> <li>Customer service management</li> <li>Climate change and energy management</li> <li>Compliance and risk management</li> <li>Investor rights protection</li> <li>Improving corporate governance</li> <li>Information and data security</li> <li>Business ethics and anti-corruption</li> </ul>	<ul style="list-style-type: none"> <li>Accelerating digital transformation</li> <li>Environmental management system</li> <li>Material recycling</li> <li>Promoting green packaging</li> <li>Management and control of waste emissions</li> <li>Sustainable supply chain</li> <li>Employee rights and benefits</li> <li>Employee training and development</li> <li>Industrial cooperation and development</li> </ul>	<ul style="list-style-type: none"> <li>Production safety and occupational health</li> <li>Intellectual property protection</li> <li>Water use and management</li> <li>Adhere to the leadership of Party building</li> <li>Responsible marketing</li> <li>Public welfare and charity</li> </ul>



## Stakeholder Communication

Estun values communication with stakeholders. We identify key internal and external parties based on daily operations and management, scope of issues, and various influencing factors. Through diverse forms of communication and supervisory frameworks, the Company swiftly responds to stakeholder priorities, cultivating sustainable and strong relationships.

Stakeholders	Expectations and Demands	Communication Methods	Response
<p>Government and Regulatory Bodies</p>	<ul style="list-style-type: none"> <li>Operate in compliance with laws and regulations</li> <li>Promote economic development</li> <li>Create social value</li> </ul>	<ul style="list-style-type: none"> <li>Government meetings</li> <li>Special reports</li> <li>On-site visits</li> <li>Information delivery</li> </ul>	<ul style="list-style-type: none"> <li>Compliance operations management</li> <li>Undergo regulatory audits</li> <li>Strengthen communication and cooperation</li> </ul>
<p>Shareholders &amp; Investors</p>	<ul style="list-style-type: none"> <li>Consistent and stable returns</li> <li>Transparent and open information</li> <li>Prevent business risks</li> <li>Good corporate governance</li> </ul>	<ul style="list-style-type: none"> <li>Information disclosure</li> <li>General Meeting of Shareholders</li> <li>Performance briefing</li> <li>Investor communication platform</li> <li>Investor research and communication</li> </ul>	<ul style="list-style-type: none"> <li>Stable operations</li> <li>Search for profit growth</li> <li>Regularly publish reports and announcements</li> <li>Enhance communication with investors</li> </ul>
<p>Customers</p>	<ul style="list-style-type: none"> <li>Product quality</li> <li>Quality service</li> <li>Protect the legitimate rights and interests of customers</li> <li>Honest transactions</li> </ul>	<ul style="list-style-type: none"> <li>Daily operational communication</li> <li>Official communication channels</li> <li>After-sales service and feedback</li> <li>Customer satisfaction survey</li> </ul>	<ul style="list-style-type: none"> <li>Ensure product quality</li> <li>Provide high-quality services</li> <li>Strengthen R&amp;D and innovation</li> </ul>
<p>Suppliers &amp; Partners</p>	<ul style="list-style-type: none"> <li>Open and honest</li> <li>Responsible procurement</li> <li>Win-win cooperation</li> </ul>	<ul style="list-style-type: none"> <li>Market research</li> <li>Special meetings</li> <li>Supplier exchange meetings</li> <li>Industry exchanges</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen supplier management</li> <li>Create a responsible supply chain</li> <li>Carry out strategic cooperation</li> </ul>
<p>Employees</p>	<ul style="list-style-type: none"> <li>Protection of employee rights and interests</li> <li>Occupational health and safety</li> <li>Career development and training</li> <li>Employee care and communication</li> </ul>	<ul style="list-style-type: none"> <li>Official WeChat of the Company</li> <li>Workers' Congress</li> <li>Employee activities</li> </ul>	<ul style="list-style-type: none"> <li>Comprehensive compensation and benefits system</li> <li>Provide development opportunities and platforms</li> <li>Ensure occupational health and safety</li> <li>Strengthen care and communication</li> </ul>
<p>Environment</p>	<ul style="list-style-type: none"> <li>Green production and operation</li> </ul>	<ul style="list-style-type: none"> <li>Environmental information disclosure</li> <li>Environmental protection concept promotion</li> </ul>	<ul style="list-style-type: none"> <li>Promote green packaging</li> <li>Drive energy conservation and emission reduction</li> <li>Resource recycling</li> </ul>
<p>Community and Public</p>	<ul style="list-style-type: none"> <li>Participate in public service</li> <li>Support community development</li> </ul>	<ul style="list-style-type: none"> <li>Information disclosure</li> <li>Community exchange and cooperation</li> </ul>	<ul style="list-style-type: none"> <li>Carry out public welfare volunteer services</li> <li>Provide charitable donations</li> </ul>



Responsibility  
Topic

# Pursuing Dreams with Thirty Years of Endeavor

## Mission at Heart, Thriving at Thirty

In March 1993, Estun was founded in Nanjing with a commitment to grow into a respected international brand. Driven by the goal of delivering value to its customers, the Company relentlessly strives towards a vision where everyone can enjoy the benefits of automation. For the past thirty years, Estun has adhered to the philosophy of "technologizing industry and industrializing technology," consistently pushing the boundaries of innovation to develop industry-leading technologies. The Company has offered complete solutions to numerous strategic partners both at home and abroad, from essential components to entire production lines and intelligent manufacturing systems. In this way, Estun has built a competitive and comprehensive development path for intelligent manufacturing, consistently driving technological advancement and innovation leadership in the industry. With the continuous dedication of all Estun members, the Company has emerged as a leading enterprise in the national industrial robot industry.

### Transforming Lives Through Intelligent Manufacturing

Our dedication to intelligent production has spanned three decades, with a persistent focus on automation and motion control, robotics and intelligent manufacturing systems, alongside core businesses in digital products and services. We integrate smart technologies into everyday life, empowering hundreds of industries.



### Pioneering the Age of Smart Innovation

With an unwavering gaze towards the future, we are dedicated to advancing cutting-edge technologies and explorations. We're ushering in a new epoch of smart capabilities, where green energy, collaborative robotics, and the universal benefits of automation enrich everyone's lives.

### Driving Innovation Forward

We gather the world's elite tech professionals to fortify our indigenous core technologies, establishing a full-spectrum industry chain competitive edge. Guided by our central "ALL MADE BY ESTUN" strategy, we strive to ascend to the zenith of quality excellence.

### Growing Together with Partners

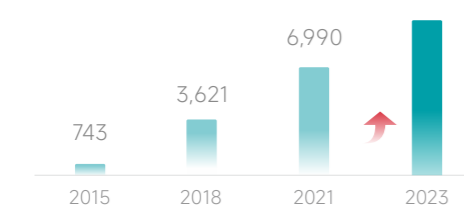
Our global network of aligned partners collaborates closely across China, Europe, North America, and Southeast Asia. Together, we are pioneering new frontiers and arenas in smart manufacturing, continuously shaping new drivers and advantages for development.

## Focus Driving Smart Manufacturing Through Innovation and Creating a Global Industrial Ecosystem Together

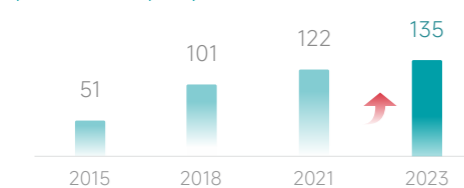
With thirty years of relentless exploration and innovation, Estun has successfully carved out a path of development in the intelligent manufacturing industry, which is distinguished by its comprehensive competitive advantages. On October 26, 2023, Estun hosted the ESTUN Automation 2023 Global Partner Conference, gathering together partners from across the globe. At the conference, Estun shared with its partners the technological achievements and pioneering explorations accumulated over the past three decades in motion control, robotics, intelligent manufacturing, and digitalization. Highlights included the unveiling of a new robot intelligent factory, state-of-the-art robot labs, globally standardized reliability testing facilities, and an advanced intelligent manufacturing experience center. We also comprehensively discussed the various new opportunities presented by the "Robotics+" era. Automation and intelligent manufacturing are set to maintain their rapid growth trajectory. Estun will persist in joining hands with global partners to foster a low-carbon, smart, efficient, and high-quality intelligent manufacturing industrial ecosystem, aimed at fostering a harmonious future between humans and machines.



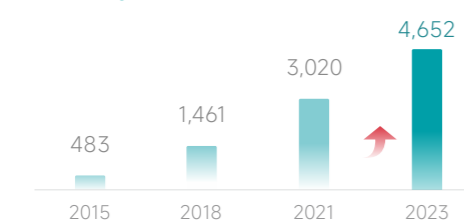
Total assets (RMB 1 million)



Net profit attributable to the parent company (RMB 1 million)



Operating revenue (RMB 1 million)



## Milestones

**1933**  
Estun was founded in Nanjing, China.



**2011**  
Estun Robotics Co., Ltd. was founded.



**2001**  
Estun developed and produced the AC servo system of its own brand.



**2015**  
Estun was listed on the SME board of the Shenzhen Stock Exchange.



**2019**  
Estun acquired Cloos, a century-old German industrial robot manufacturer.



**2021**  
Estun industrial robots' annual shipments surpass 10,000 units.



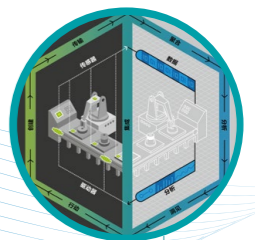
**2018**  
Estun Robotics Industrial Park was officially put into operation, featuring a robotic assembly line for manufacturing robots.



**2020**  
Estun has been recognized as one of China's Top 50 most innovative companies and is the only company from the industrial robotics sector to make the list.



**2023**  
A new digital & international Estun.





Responsibility  
Topic

# Pursuing Dreams with Thirty Years of Endeavor

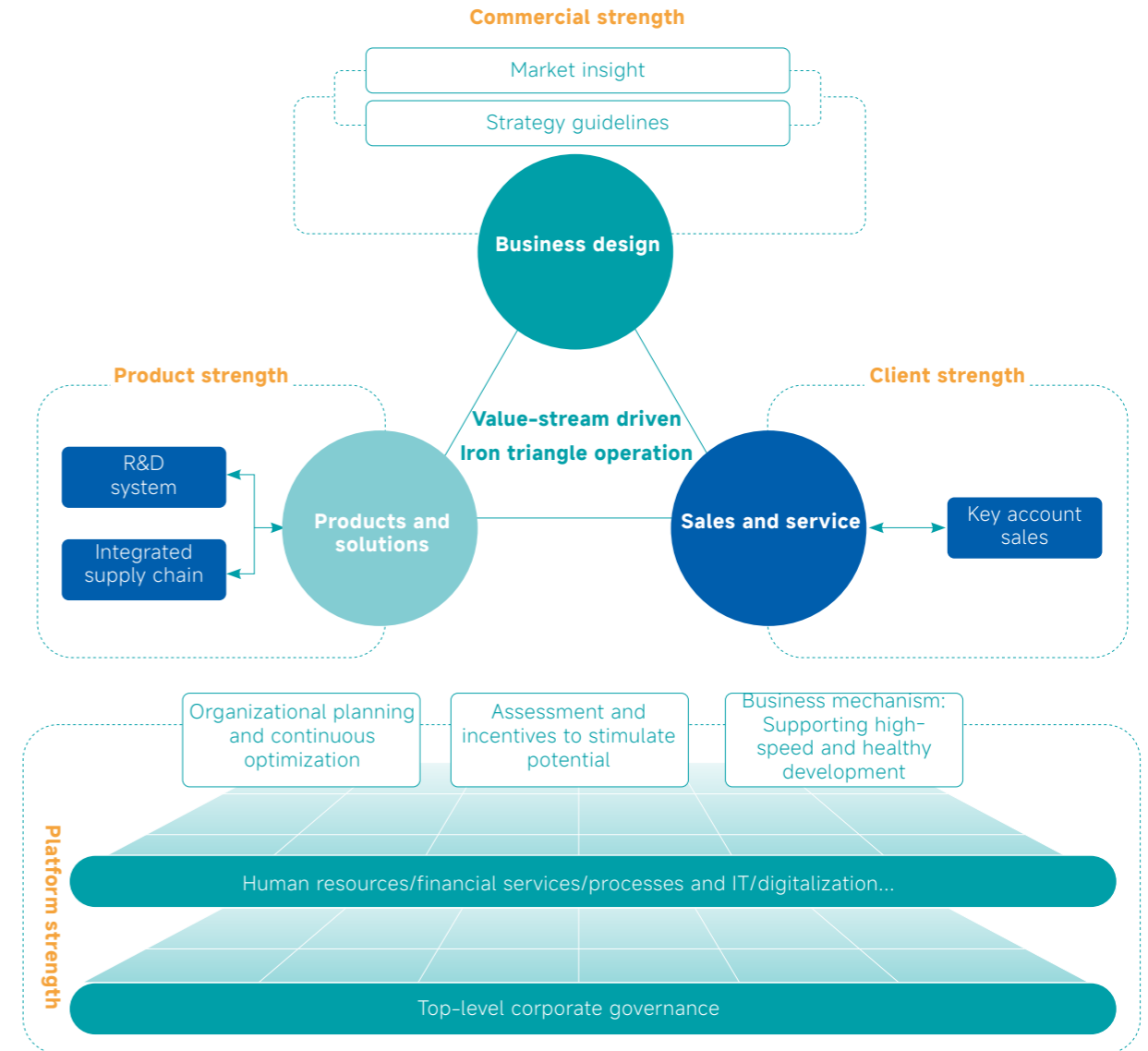
## Managing Transformation and Advancing Towards Dreams

The era of success built on chance and isolated breakthroughs has come to a close. Estun operates in a highly competitive industry where competition is fierce and dominated by numerous strong players. Positioned at the dawn of its second thirty-year milestone, Estun propels itself upstream, capturing strategic opportunities and setting its sights on ambitious new objectives, embarking once again on a journey filled with both challenges and prospects. As advanced management practices and the scientific approach of organizations nowadays are increasingly crucial in differentiating companies, Estun is firmly undertaking comprehensive corporate management reforms to further enhance its competitive edge and seize development opportunities. By adopting more scientific and efficient approaches, Estun is advancing towards greater heights of success.

Through profound market insights, we have reviewed our corporate strategy for the next 3-5 years and established a comprehensive plan for transformation. This will enhance the strategic and transformative pull on development. We are fostering industry-leading organizational prowess and a customer-focused approach to management through process optimization, sales enhancement, service improvement, and structural organization. Our goal is to create a truly integrated end-to-end process system that achieves high efficiency and high-quality enhancement in management abilities.



2023 marks a pivotal year for Estun as we embrace comprehensive reforms across governance structures, strategy management, sales and services, as well as products and solutions. We have established a customer-centric "Iron Triangle" team by mapping out customer pain points and value propositions. The new operational model is also supported by synergistic efforts from human resources, finance, and other functional divisions, which fosters an integrated growth of client strength, product strength, commercial strength, and platform strength, thereby enhancing organizational competencies and efficiency.



As we embrace a new chapter with our heritage, we strive to fulfill our grand aspirations through continuous growth. We aim to ascend to the forefront of the global industrial robotics and automation sector, establish a strategic presence in international markets, and enhance the industry ecosystem, thus ensuring all-round leadership in industrial robotics. Each member of the Estun team is committed to this vision, pursues it with unrelenting passion and effort, and collaborates to foster a bright new era for the Company over the next thirty years.



# Empowerment: Making Manufacturing Smarter

Amid the fourth industrial revolution, Estun is unwavering in its commitment to advancing autonomous core technologies, deepening digitalization capabilities, and consistently developing high-quality products and solutions. In partnership with global players, Estun facilitates the digital transformation and upgrading of the manufacturing industry through automation, intelligence, and digitalization.

## Contributing to UN SDGs



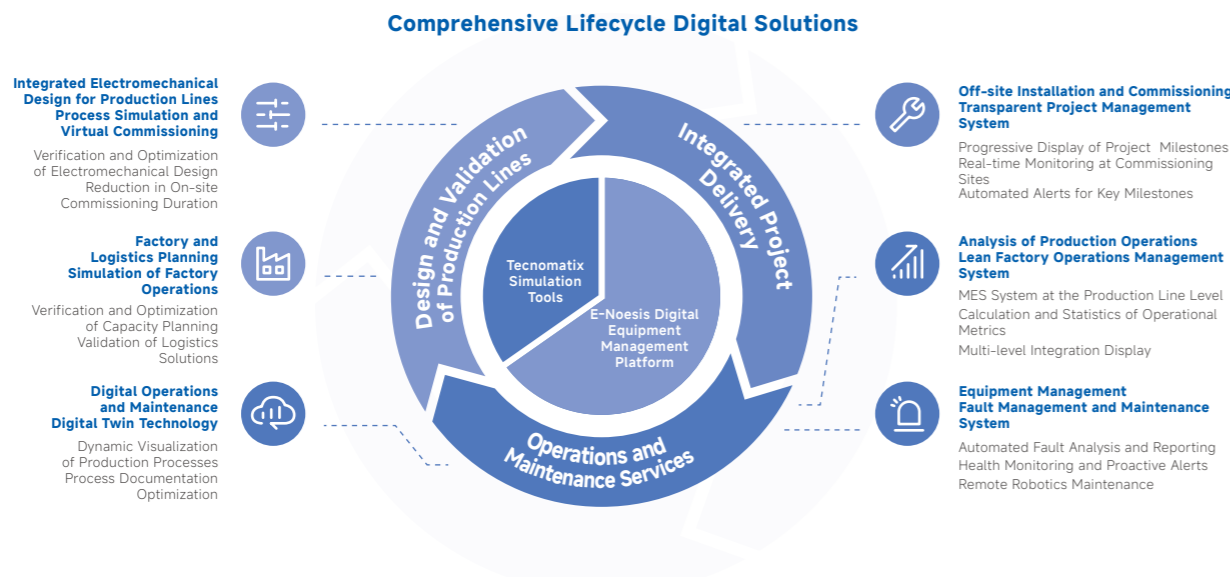


# Creating Industrial Value

Estun aligns closely with national strategic initiatives such as "Smart Transformation and Digital Conversion," "Robotics+," and the "3060" carbon peak and neutrality targets. Leveraging advanced robotics and solutions in automation and intelligence, it actively fosters the empowerment of the industrial sector, contributing to the construction of China's advanced manufacturing ecosystem.

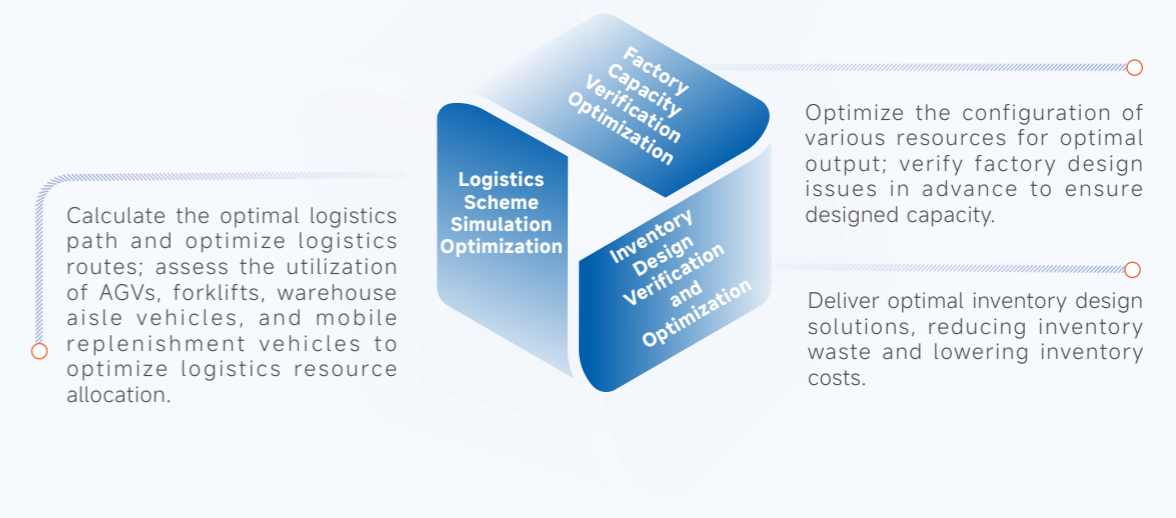
## Supporting Industrial Digital Upgrading

Dedicated to digital technology innovation, Estun focuses on customer needs to develop the Motion Control Industrial Software Platform, Simulation and Offline Programming Software, Graphical Programming Software, and Discrete Manufacturing Product Digital Management Software. By integrating AI technology, it has introduced the Teaching-Free Programming Software to enable a comprehensive digital lifecycle solution for industrial design and validation, production line delivery, and digital factory operations and maintenance. This enhances operational efficiency and product quality, driving smart industrial manufacturing and a shared digital future.



### Case Digital Factory Simulation to Enhance Operational Efficiency

A well-planned factory layout may face practical issues like production blockages and material wait stoppages upon implementation. By pre-simulating the production process, timely adjustments and optimizations can be made to ensure investment and decision accuracy. Estun employs Tecnomatix Plant Simulation software for factory modeling, utilizing three key strategies: optimizing logistics planning through simulation, enhancing factory capacity validation, and refining inventory design validation and optimization. This approach aids clients in digitizing factory design, substituting manual calculations with digital simulation tools for scientific, accurate, and transparent optimization schemes, significantly enhancing the factory's lean production capabilities.



#### E-Noesis Digital Equipment Management Cloud Platform

- Featuring intelligent gateways for millisecond-level data collection and based on edge and cloud computing platforms, it delivers real-time, systematic, comprehensive displays of equipment and production line data. Flexible cloud and local deployment options allow enterprises to quickly establish their own lightweight lean management platforms.
- In 2023, Estun successfully integrated the virtual modeling features of Siemens' Process Simulate with its E-Noesis platform to enhance digital factory capabilities, facilitating dynamic displays of production processes and timely recording of process flows. This integration reduced onsite debugging time by 30% and comprehensive debugging costs by 20%, boosting factory production efficiency and quality.
- The E-Noesis platform has connected over 8,000 robotic devices and consistently delivers high-quality digital solutions for energy management, equipment management, and production management throughout their entire lifecycle to a diverse clientele.

#### PCS Production Line Process Control System

- By providing a lightweight manufacturing execution system for automated workstations, production lines, and segments, it enables the digitalization of processes, transparency, and integration with upstream systems.
- As a line-level control system, PCS receives work orders from ERP/MES, collects equipment data, enables process tracing, and reports back to ERP/MES.
- EM-PCS initiates line-side material demand through pallet sensor signals. WMS generates warehousing commands based on PCS demands and dispatches AGVs to facilitate line-side logistics delivery.
- Based on work orders and equipment data, it manages production process data, in-process inventory, line-side logistics, etc., clearly displaying production progress and equipment utilization rates through production reports.

#### Industrial Software

- It provides support for the entire industrial manufacturing workflow, from design and production to communication and control, by programming and repurposing industrial expertise.
- In the CAM domain, Estun has developed virtual debugging, offline programming, and virtual simulation industrial software platforms through self-research and integrated development. These platforms ensure rapid, high-quality delivery for lithium batteries, new energy, arc welding, and bending applications at workstations and smart production lines, shortening overall delivery cycles by 15%.





## Promoting Safe and Efficient Manufacturing

Manufacturing enterprises frequently encounter challenges such as high production costs, inefficiency, and elevated safety risks. Estun's advancements in industrial robotic automation effectively replace human labor in repetitive tasks, significantly enhancing productivity, optimizing production costs, and reducing safety incidents. This contributes to a lower rate of work-related injuries and strengthens market competitiveness for customers.



### Enhancing Quality and Efficiency

**Increasing production efficiency:** Drastically improve production efficiency, reduce the product manufacturing cycle, and enhance economic benefits.

**Reducing production costs:** Cut down on the consumption of human, material, and financial resources, assisting clients in reducing their production expenses.

**Improving product quality:** Implement standardized production processes to guarantee consistent product quality.



### Safe Production

**Avoiding environmental hazards:** Prevent production staff from working in hazardous and adverse environments, decrease the incidence of occupational diseases, and protect the health and safety of employees.

**Preventing safety incidents:** Minimize safety accidents attributable to human errors, reduce the frequency of such incidents, and decrease the rate of work-related injuries.

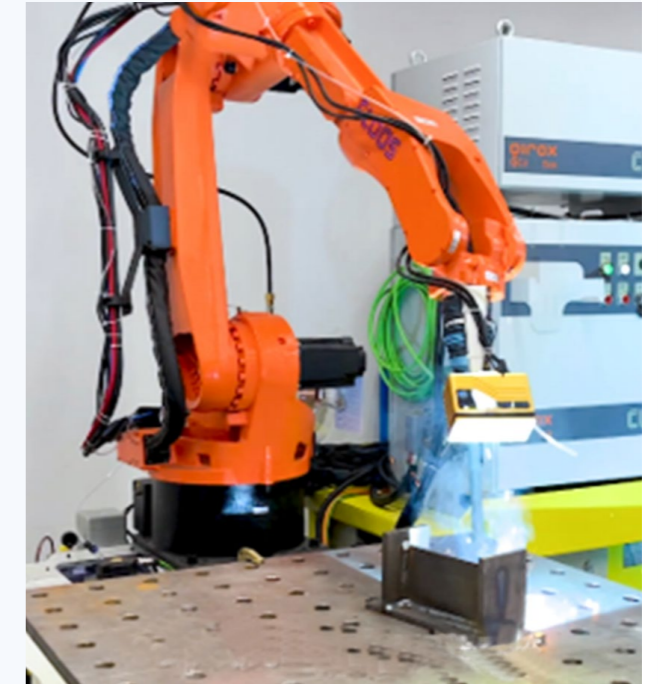
## Case Empowering Domestic Substitution to Ensure Autonomous Control

Estun proactively aligns with major clients' "domestic substitution for imports" strategies and the pressing need for efficient automation, driving forward project implementation. To comply with production tempo requirements and robotic configurations tailored for diverse scenarios, the project team customizes system updates and performs onsite equipment debugging and maintenance. Through persistent efforts, Estun robots have been extensively deployed, effectively meeting clients' demands for domestic equipment substitution. In 2023, a significant breakthrough in spot welding applications (ER 220-2650) was achieved with the Estun ER220B-2650-LI, which replaced imported machinery, maintaining performance while also reducing costs.



## Case Creating a "Hand-Eye-Brain" Intelligent Welding System in the Broad Steel Structure Field

In 2023, Cloos and strategic partners launched a teaching-free robot-based intelligent welding system that utilizes 3D vision recognition. This system integrates cutting-edge technologies including industrial robot control, vision sensing, image processing, automatic programming, artificial intelligence, and big data. It caters to the move towards demanualization, flexibility, and intelligence in robotic welding. The system is highly efficient, stable, and intelligent, meeting the needs for flexible welding of "multi-category, small-batch" products and large-scale ship steel structure components, achieving a truly "teaching-free, programming-free, and highly automated" intelligent welding process.



Featuring teach-free, self-programming capabilities, the system is perfectly suited for the welding production of discrete components and offers innovative intelligent solutions for industries such as steel structures, heavy shipbuilding, and power transmission. It tackles issues like labor shortages, high work intensity, and poor quality control, advancing the standardization and intelligence of production processes. This system is currently employed by leading companies in the construction steel structure and ship manufacturing sectors.

## Case Die-Casting Robots and Solutions

Estun offers die-casting robots and comprehensive automation solutions for die-casting peripherals. A fully automated die-casting island can boost product pass rates by 20%, increase overall production efficiency by more than 30%, and ensure continuous high-efficiency and stable production, saving clients approximately 13% in annual costs. Furthermore, the traditional die-casting industry, known for its harsh production environments, high labor intensity, and substantial risk factors, benefits from Estun's specialized robots. These robots are designed to withstand high temperatures, dust, and moisture, achieving an IP67 protection level. With sensors and digital strategies, they facilitate effective human-machine collaboration. Employing Estun's high-protection robots eliminates the need for manual intervention with fixtures deep inside die-casting machines, significantly reducing labor intensity and enhancing safety for production personnel.





## Boosting Development of New Energy Sector

The "dual carbon" strategy accelerates the transformation toward new energy sources and enhances the integration of renewable energy. Fields such as photovoltaics, energy storage, and new energy vehicles play pivotal roles in achieving these "dual carbon" goals and are poised for rapid and continuous growth. We harness the Company's core resources to fully participate in developing customized products for our clients. With our complete array of Estun industrial robots, TRIO motion controllers, Estun servo systems, and digital products, we deliver comprehensive automation solutions tailored to the new energy industry. These solutions fulfill the sector's demands for high speed, precision, stability, and cost-effectiveness, thereby driving the high-quality advancement of the new energy sector.



### 1 Photovoltaic Industry

We provide complete intelligent manufacturing solutions throughout the entire production chain, applicable to all stages of photovoltaic processes. These solutions deliver intelligent, comprehensive strategies for the photovoltaic industry, leveraging Chinese technology to spearhead robust sector growth.

Estun has a long history of deep involvement in the photovoltaic sector, with expertise spanning from silicon materials and wafers to cells and packaging. In addition to enhancing automation with robotics, we also specialize in customizing high-value products for complex processes, overcoming application challenges, and achieving comprehensive coverage of the process chain, thus empowering intelligent manufacturing across the photovoltaic industry.

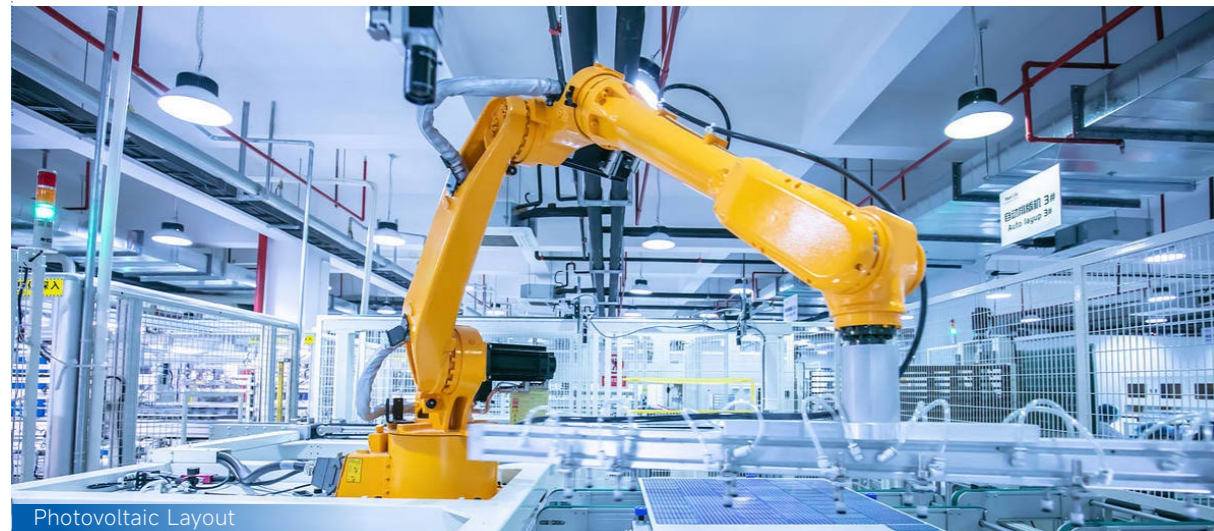
Our industrial robots, automation core components, and motion control products facilitate intelligent manufacturing throughout the photovoltaic industry chain, contributing to photovoltaic projects with a total capacity exceeding

We partner with more than

**100** photovoltaic companies.

**600** GW.

Estun's "Photovoltaic Layout Industrial Robots" have been recognized in  
**the Ministry of Industry and Information Technology's eighth batch of single-item champion manufacturing enterprises.**



Photovoltaic Layout

### Case Establishing the Industry's First 48PPM CTP Kirin Battery Mass Production Line

CTP (Cell to Pack) technology merges the battery with the chassis of electric vehicles to maximize volume utilization, resulting in higher energy density and extended driving ranges. This technology is a key focus in the development of new energy vehicles. In 2023, we successfully commissioned the industry's first 48PPM CTP Kirin battery mass production line, surpassing production goals and pioneering fully automated, unmanned manufacturing of new energy vehicle modules. This advancement enables flexible production of diverse products, offers high compatibility, and supports model switching within 10 minutes, ensuring lean, efficient production, enhancing product quality, and boosting the driving range of new energy vehicles.

First pass yield:

over **99.5** %

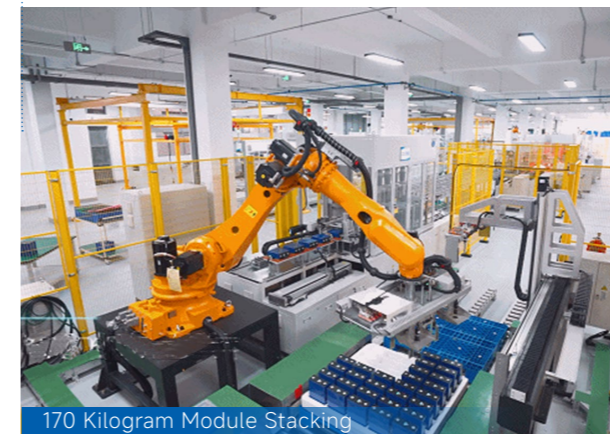
Product failure rate:

under **1** %

### 2 Energy Storage Battery Industry

We specifically develop robots for the energy storage industry with payloads ranging from 35 to 220 kilograms, optimized for load, precision, structural design, and software algorithms. These robots are ideal for tasks such as stacking, glue application, lamination, and cell inspection.

Responding to the trends of large-scale energy storage and cells, we have introduced over ten models of six-axis robots with payloads ranging from 220 to 700 kilograms. These robots offer high speed, precision, and exceptional interference resistance and can be equipped with 45-meter-long cables, making them versatile for various energy storage battery production environments. The use of heavy-load robots not only elevates the level of automation in lithium battery production and lowers costs, but also enhances stability and safety throughout the manufacturing process.



170 Kilogram Module Stacking

### 3 New Energy Vehicle Industry

We conduct extensive research on robotic applications in the new energy vehicle industry and have introduced various medium to large payload models suitable for processes including arc welding, spot welding, glue application, stamping, handling, loading and unloading, riveting, and casting. We also provide mature, industry-specific software packages that facilitate intelligent manufacturing in the new energy vehicle sector.

Our digital welding solutions for new energy vehicle battery trays include a welding quality evaluation system developed on the E-Noesis platform, which continually optimizes welding processes, thereby improving welding efficiency and quality.

We support over **1** million vehicles in the lithium battery process sector with new energy solutions.



Automotive Spot Welding



# Collaborating with Industry Partners

Estun consistently adheres to a business philosophy centered around "open, innovation, striving, growing together," focusing on fostering positive interactions with enterprises throughout the industrial chain, as well as with universities, research institutions, and industry associations. By sharing resources and leveraging complementary strengths, we aim to deeply integrate innovation chains, industrial chains, capital chains, and talent chains, thereby facilitating the transformation of scientific and technological achievements into productivity.

## Strengthening Integration of Industry and Academia

Estun has established long-term, stable partnerships with research institutions and higher education institutions, jointly undertaking technology R&D, and talent development projects. Through resource sharing and mutual reinforcement of strengths, we collectively drive industrial innovation and development.

**In technology R&D,** we collaborate closely with institutions such as Southeast University and Shanghai Jiao Tong University, actively engaging in industry-academia-research collaboration projects to accelerate the application and transformation of technological achievements. Currently, we are co-creating initiatives such as the "Jiangsu High-End Industrial Robots Innovation Consortium" and the "Nanjing High-End Industrial Robots Innovation Consortium" to address scientific and technological challenges and overcome common technological bottlenecks that impede the high-quality development of China's high-end industrial robots.



**Regarding talent development,** we have established practical bases at select universities and professional colleges to provide students with internship and training opportunities. This collaboration helps students better understand industry trends and market demands, fostering the joint cultivation of high-quality talent with innovative capabilities and practical experience to robustly support industrial development.

## Deepening Partnerships

The Company places great emphasis on enhancing cooperation with partners along the industrial chain, establishing a broad array of strategic alliances and close collaborative relationships. This promotes the integration of resources upstream and downstream, fosters the reinvention of innovation and productivity, and achieves a mutually beneficial outcome for all parties within the industry ecosystem. In 2023, we signed strategic cooperation agreements with multiple companies.

We have formed a strategic partnership with the Beijing Research Institute of Automation for Machinery Industry Co., Ltd. to collaborate on technology research and market cooperation in areas such as robotics, industrial control, industrial software, variable frequency drives, PLCs, and AC servo systems.

In collaboration with Haitian Smart Solutions Co., Ltd., we have entered into a deep strategic partnership in the fields of integrated drive and control technologies. By sharing ecological advantages across products such as Scara robots, multi-joint industrial robots, motion control systems, and AC servo systems, we explore a richer array of application scenarios.

Together with Zhejiang Hancent Technology Co., Ltd., we are engaged in joint technology research and market cooperation. We will comprehensively collaborate in areas such as robotics, industrial control, industrial software, digital systems, and AC servo systems, jointly tackling pioneering technological challenges to accelerate the attainment of sci-tech self-reliance and self-strengthening at higher levels.

# Participating in Industry Exchanges

The Company actively participates in both domestic and international exhibitions and exchange activities, engages in the co-creation of standards, and promotes professional exchanges between industries. We share experiences and collaboratively explore solutions to industry development pain points and challenges, contributing to the healthy and sustainable development of the industry.

## Exchange Exhibitions

On September 19, Estun showcased a range of new UNO series industrial robots and industry application solutions at the 23rd China International Industry Fair under the theme "Practicing Carbon Neutrality, Focusing on Digitalization."



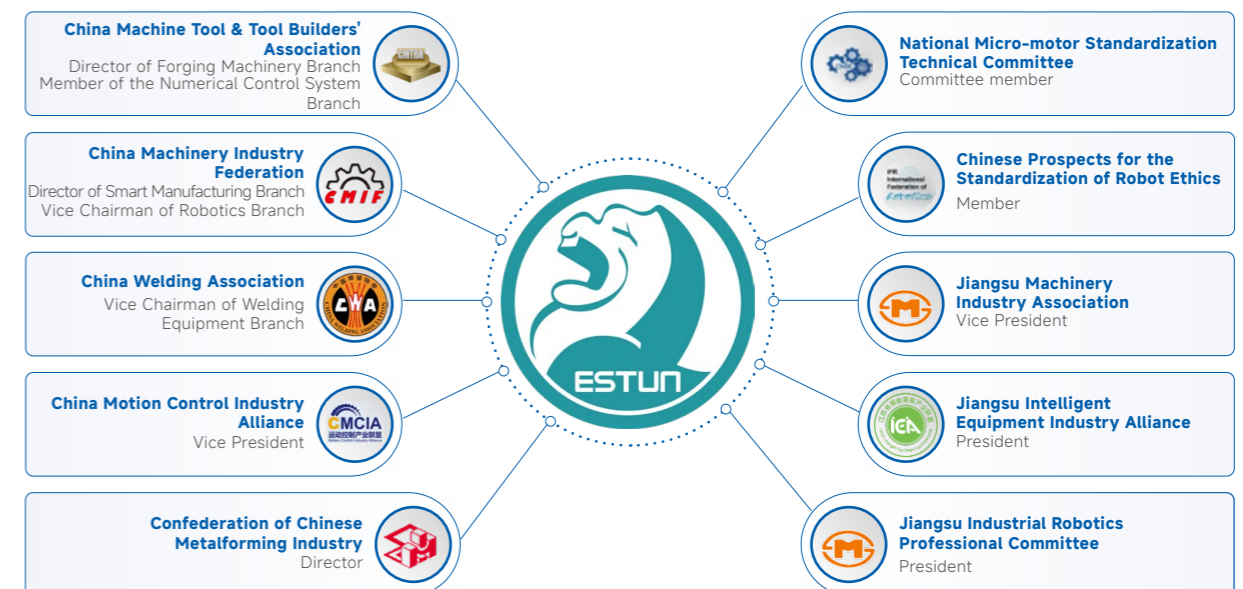
On December 6, Estun participated in the 2023 World Intelligent Manufacturing Conference, displaying various industry application solutions for new energy and high-end automotive equipment, thus accelerating the manufacturing industry's progression toward high-end, intelligent, and green development.



Estun also participated in international exhibitions such as the BUMATECH Fair in Turkey, the SIANE Automation Fair in Toulouse, the Metalex machine tool exhibition in Thailand, and the SPS Industrial Automation Fair, enhancing the international influence of our products.

## Association Exchanges and Standard Co-development

As a leader in China's robotics industry, Estun holds a position on the executive committee of the International Federation of Robotics (IFR) as the representative of Chinese enterprises, serves as Vice President of the China Robot Industry Alliance, and is a member of the Chinese Prospects for the Standardization of Robot Ethics. We also work as President in the Jiangsu Industrial Robotics Professional Committee and Vice President in the Jiangsu Machinery Industry Association, and are recognized as a certified site by the Mechanical Industry Vocational Skills Appraisal Guidance Center. We engage in comprehensive and intensive dialogue with association members and take an active role in the development of national and industry standards in areas such as mechanics, welding, and forging. Notable contributions include the *Safety of Machinery - Safety-Related Wireless Control Devices - General Specification* (GB/T 41351-2022), *Safety of Machinery - Technical Requirements for Safety Relays* (GB/T 38225-2019), and *Test Methods for Energy Consumption during Welding Processing*, which contribute to the technological progression and high-quality development of the robotics industry.







# Professionalism: Enhancing Quality

Estun is dedicated to excellence, anchored in quality and shaped by innovation. We constantly develop smart manufacturing solutions and strive for perfection in our products and services, aiming to make automation accessible to everyone. We protect our customers' interests on multiple fronts, working relentlessly to deliver improved and sustainable value, thus driving the transformation and upgrading of the manufacturing industry.

## Contributing to UN SDGs





# Leading Development via Innovation

Estun is driven by innovation and committed to establishing a globally competitive R&D framework and a layered R&D system. We actively enhance our innovation processes, accelerate the development and effective use of various technological innovation platforms, and consistently boost our investment in R&D to facilitate the transformation of technological advancements and foster the Company's innovative growth.

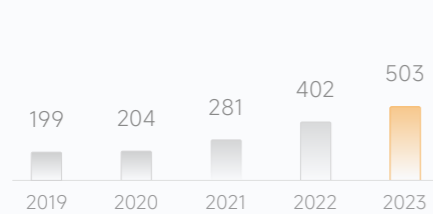
## Optimizing R&D Management

Estun has been engaged in strategic innovation management, developing *R&D Management Standards* and creating high-level technological innovation platforms. We persistently amplify the scope and intensity of our technological innovation investments, thereby strengthening our innovative capabilities.

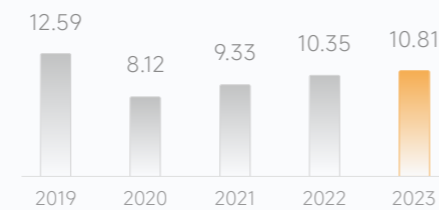
## Increasing R&D Investment

Our R&D expenditures have consistently represented approximately 10% of our annual revenue, supporting specialized teams in robotics and intelligent manufacturing systems, intelligent core control components, and our European R&D center. Additionally, we have teams of technical experts in core control components and solutions for robotics and intelligent manufacturing from the UK, Germany, Italy, and other European countries, providing vital support and assurance for our ongoing independent innovation.

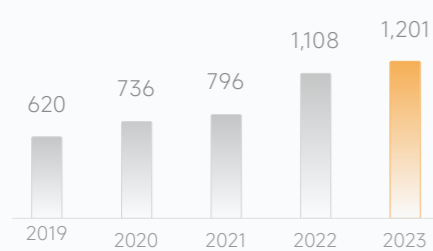
R&D Investment (RMB 1 million)



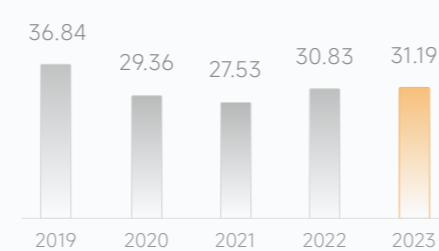
R&D Investment as a Percentage of Operating Revenue (%)



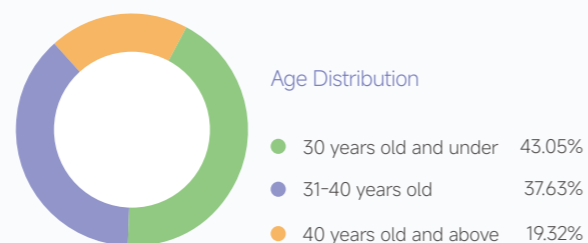
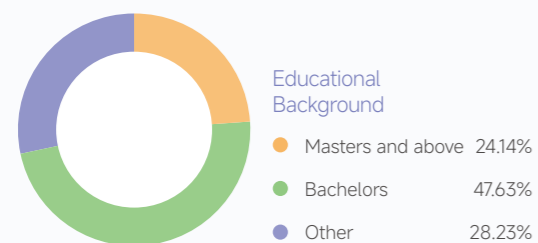
Number of R&D Staff (persons)



Proportion of R&D Staff (%)



R&D Personnel Structure in 2023



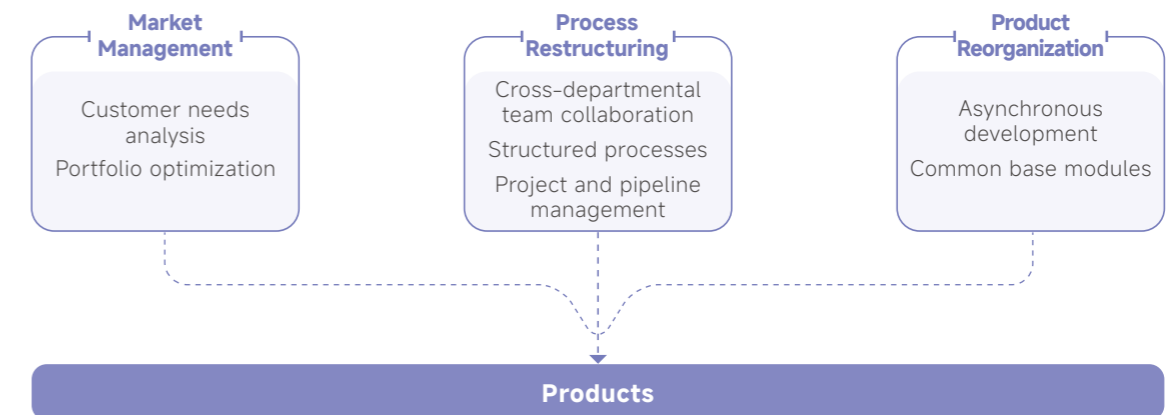
## Establishing Technological Innovation Platforms

The Company has established a three-tiered system of innovation platforms at national, provincial, and high-tech enterprise levels. This strategic framework utilizes platform resources to significantly enhance our innovative development capabilities.

- ▶ National Mechanical Industry Servo System Engineering Technology Research Center
- ▶ National Forging Machinery Control and Functional Components Working Group
- ▶ National Postdoctoral Research Station
- ▶ Jiangsu Servo System Engineering Technology Research Center
- ▶ Jiangsu Forging Machinery CNC System Engineering Technology Research Center
- ▶ Jiangsu Electro-hydraulic Control Systems Engineering Technology Research Center
- ▶ Jiangsu Key Laboratory for Industrial Robots and Motion Control
- ▶ Jiangsu Science and Technology Innovation Development Award Outstanding Enterprise
- ▶ Jiangsu Enterprise Technology Center
- ▶ Jiangsu Enterprise Graduate Workstation

## Integrating Product Development Model

The Company employs the Integrated Product Development (IPD) model for product development and technology R&D, guided by comprehensive analyses of macro-industry trends, strategic company planning, customer needs, and technological directions. Starting from market demands, our development is market-driven, focusing on innovation to meet customer expectations through an end-to-end product line approach. This strategy integrates our market research, R&D, production, quality control, and delivery processes into a cohesive value chain centered on customer satisfaction. For forward-looking key technologies and applications, we have established specialized teams to conduct thorough research and evaluations, incorporating these findings into our development plans to address critical technological gaps.





## Updating R&D Outcomes

Estun is intensely focused on three primary sectors: industrial robots, motion control, and digitization, positioning itself as a leader in technological innovation tailored to a wide array of industry applications.

### Industrial Robots Sector

- **2023-02** Launched a new generation of high-speed, high-precision, small-load, multi-joint robots.
- **2023-08** Introduced new large payload robots, ER160B-3200 & ER270-2700, expanding our range of high-speed, energy-efficient large payload robots.
- **2023-09** Released the UNO series, enhancing the choices for high-speed, high-precision applications.  
Introduced safe, adaptable, and high-performance human-machine collaborative robots alongside an embodied intelligence technology platform.

### Motion Control Sector

- **2023-07** Debuted the next-generation Motion-ix platform, featuring an integrated, high-performance, low-latency PC-MCAT-2 visual control controller.
- **2023-09** Launched the advanced motion control core Flex-7 flexible expansion controller.

### Digitization Sector

- **2023-03** Enhanced the industrial interconnection platform E-Noesis for real-time management of robot operations.
- **2023-09** Emphasized low-code programming to lower barriers to entry, launched the graphical offline programming software Editor2.0, and focused on managing the digital lifecycle from data collection to analysis, supporting the optimization and upgrading of production lines.

### Case Independently Designed and Manufactured Heavy-Duty Industrial Robots

Utilizing high-performance, high-power servo motors and drivers, Estun independently designed and manufactured a 700 kg heavy-duty industrial robot. This innovation in balanced system structure design achieved a higher load ratio, filling a significant gap in the domestic market for high-quality, high-inertia, high-torque, and high-speed industrial robots. Throughout the reporting period, the product saw limited deployment among customers, and subsequent applications demonstrated that Estun's heavy-duty industrial robots met international standards of performance and reliability.

Key Technologies and Applications of High-Performance Control Systems for Industrial Robots earned the **Second Prize of the 2022 Jiangsu Provincial Science and Technology Award.**

Creation and Application of a Robot Testing Evaluation System and Key Technologies secured the **Second Prize of the 2022 Shanghai Scientific and Technological Progress Award.**

## Safeguarding Intellectual Property

Intellectual property acts as both a conduit and a crucial link in transforming scientific and technological achievements into productive forces, embodying the core competitive strength of a business. Estun rigorously adheres to relevant laws and regulations such as the *Trademark Law of the People's Republic of China*, *Patent Law of the People's Republic of China*, and *Copyright Law of the People's Republic of China*. We have developed and refined our *Intellectual Property Management Measures* to standardize our management practices, enhance intellectual property protection, mitigate various intellectual property risks, and promote the application of scientific and technological advancements.

### Protecting Proprietary Intellectual Property

- **Archive Management.** We have dedicated personnel managing our intellectual property archives, who regularly organize related documents, intellectual property contracts, and other materials. These assets are managed hierarchically, based on their potential value creation, significance to company development, and associated maintenance costs.
- **Application and Confirmation.** We file timely patent applications, trademark registrations, and copyright registrations for autonomously developed technologies, product designs, and commercial identifiers.
- **Peer Monitoring and Early Warning.** We promptly monitor the competitive landscape and the development of patent technology within the industry, keeping an eye on intellectual property cases and high-risk areas within the same sector. We aim to avoid infringing on others' intellectual property rights and prepare contingency plans for potential disputes.
- **"Core Secrets + Patent Protection".** Depending on the circumstances, we employ a dual protection strategy for our R&D or product designs.
- **Intellectual Property Training.** This initiative boosts the awareness of R&D personnel about protecting intellectual property and safeguards the results of our independent innovation.
- **Establishment of Incentive Systems.** We reward inventors or designers based on the scope of their design or the economic benefits derived, thereby fostering active innovation.

Patents secured by the end of 2023:

**602**

including

**252** invention patents

software copyrights acquired:

**347**

### Emphasizing Risk Identification and Response

Comprehensive Risk Information Collection Mechanism. We have implemented a system to comprehensively review the patent, trademark, copyright, and trade secret legal risks encountered during business operations. We assess the likelihood and consequences of these risks and issue timely warnings for risks that are typically significant, commonly occurring, or potentially severe.

Regular Compliance Risk Inspections. We address compliance risks identified during inspections with intellectual property risk response strategies tailored to different risk types, and encourage departments to actively implement corrective measures.



# Enhancing Quality Management

Quality is fundamental, and customer satisfaction is paramount. Estun strives to refine the quality of our products and services, providing more reliable products to meet the diverse needs of our customers and consistently creating added value.

## Implementing Strict Quality Control

Estun adheres to a quality policy centered on "survival by quality, benefit by management, development by innovation, and reputation by service." We have established three principles of quality management, developed a comprehensive quality management system, promoted a culture of quality within the Company, and are committed to delivering the highest value to our customers through superior quality products.

### Quality Management System

We have devised and enhanced management systems that meet all ISO 9001 requirements, including the Quality Management System, Material Certification Management Process, Incoming Inspection Management System, Finished Product Inspection Management System, and Non-conforming Product Control Management System.

### Quality Risk Management

We routinely identify and evaluate quality risks throughout the product lifecycle, implementing strategies to prevent and control the manifestation of these risks.

### Quality System Management

Our operations are certified under ISO 9001:2015. We keep improving our quality management system through annual internal and external audits. In 2023, by optimizing procurement and supplier management, manufacturing, process management, equipment management, logistics, warehousing, and quality control, we ensure the system's adequacy and effectiveness.

## Comprehensive Quality Management System

Based on Total Quality Management (TQM), we engage all employees and establish a comprehensive system that spans product R&D, design, and manufacturing.

### R&D Quality Management

We standardize our R&D management processes, carrying out product development in line with the IPD process. We have developed a standardized platform for mechanical design, strengthened our management of R&D data, and consequently improved the quality of our R&D designs.

### Production Quality Management

We refine and optimize standardized processes for each production stage, establish critical quality controls in manufacturing processes, and employ MES systems to monitor these processes, ensuring high-quality production standards.

### Project Operation Quality Management

We develop and refine quality-related systems and project management processes, establish KPIs for product lines, analyze product line operations, and thus ensure the efficiency and quality of project management.

### Supplier Quality Management

We continually enhance our materials management system, improve supplier audits, and bolster incoming inspection procedures to ensure the quality of our suppliers.

### Quality Inspection Management

We conduct quality and safety tests based on technical specifications and quality agreements signed with customers. Goods are only dispatched once they meet these established standards.

### Digitalization of Quality Management

In 2023, we leveraged systems such as E-Cology Office, SAP, SRM, MES, and CRM to enhance the statistical analysis of quality data across all processes, providing a robust foundation for quality control and systematically raising our quality standards.

Product defect rate  
year-on-year decrease:

**19%**

First-time out-of-box pass rate: Increased  
from 99.5% in the previous year to

**99.58%**

### Case

### Biweekly Quality Special Inspections in Production Workshops

From February to December 2023, Estun's Quality System Department carried out biweekly special inspections in production workshops. These inspections focused on the appropriateness of process discipline requirements and the adherence of employees. Issues identified were assigned responsibilities, communicated for improvement plans, and followed up to ensure closed-loop management. In 2023, we conducted 22 inspections, identified 111 issues, and achieved a 100% resolution rate.

## Supply Chain Quality Control

Estun actively optimizes supply chain quality control by establishing robust supplier quality management systems, enhancing supplier quality audits, and improving incoming inspections. We also strengthen supplier accountability to ensure that supplier materials consistently meet our standards.

Supplier incoming material  
PPM compliance rate:

**99.4%**

Refining  
Systematic  
Establishment

Using policy documents such as Supplier Performance Evaluation Management for Production Materials, Incoming Quality Control Process, Material Certification Management Process, and Supplier Audit Management Measures, we have set up PPM indicators for supplier material quality and conduct monthly performance evaluations.

Reinforcing  
Inspection  
of Incoming  
Materials

We implement comprehensive inspections of supplier materials and standardize the management of supplier inspection records. Suppliers are re-inspected to verify the authenticity of their quality inspections and to ensure that materials meet our quality standards before use.

Strengthening  
Quality  
Constraints

For suppliers with significant quality issues, we conduct targeted audits, impose fines, and provide corrective guidance to improve their delivery pass rates. We also require suppliers to provide a response and analysis report within a week for any significant discrepancies.

Enhancing Supply  
Quality

We conduct onsite audits and training for key category suppliers and invite them to deliver quality presentations at the Company. This helps to summarize lessons learned and promote quality improvements.



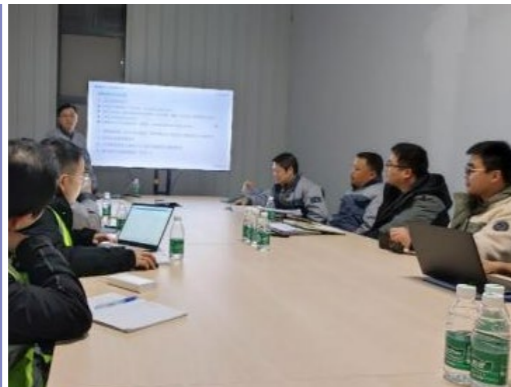
### Quality Culture Cultivation

Estun is dedicated to cultivating a culture of continuous quality improvement, motivating every employee to adopt a "zero defects" approach to quality management. Our goal is to internalize a sense of quality awareness in each individual, manifesting it in actions, and to constantly enhance both personal skills and quality consciousness.

In December 2023, the Company initiated a "Quality Month" campaign themed "Foundation Strengthening, Quality Enhancement, and Delivery Assurance," featuring a series of activities including Quality-focused Training, Special Quality Inspections, Golden Ideas for Quality, and Employee Skills Competitions.

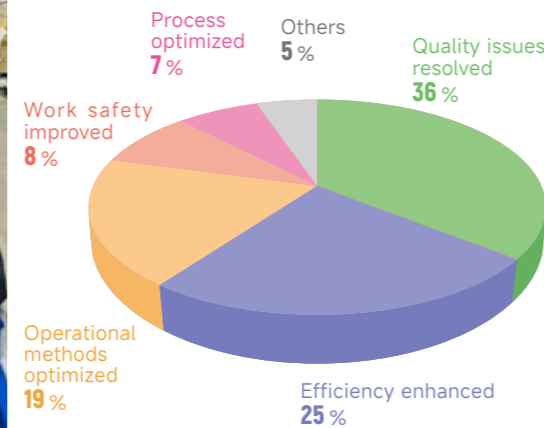
#### Quality-focused Training:

We provided specialized training for production frontline workers and engineers, covering quality awareness, lessons learned from quality issues, and advanced quality knowledge.



#### Golden Ideas for Quality:

We offered special rewards for the suggestion and implementation of "Golden Ideas," encouraging employees to actively contribute innovative solutions that bolster our collective quality improvement efforts.



#### Special Quality Inspections:

We carried out retrospective inspections by forming joint inspection teams that conducted cross-verification checks on 47 tasks, swiftly identifying and rectifying any shortcomings.

#### Employee Skills Competitions:

We hosted skills competitions among production teams, assessing criteria such as work quality, consistency, and efficiency, and recognized top performers as "Production Experts."



## Leading in Smart Manufacturing

With the rapid evolution of technology, traditional factories are increasingly being replaced by more sophisticated automated solutions. Estun has also embraced the journey towards smart manufacturing. The Company has established world-leading automated production lines and adopted flexible lean production methods to ensure high-quality production and delivery.

### Robot Intelligent Factory Project

The Company has independently developed a production line where robots are used to manufacture other robots, which is implemented in our automated and informatized smart factories. This project automates and digitizes the production of robot bodies, utilizing in-house produced robots for comprehensive assembly, handling, and inspection processes. Information technology is also employed to ensure quality traceability and process monitoring of robot products, facilitating ongoing process enhancements. The development of smart factories has elevated our manufacturing informatization and intelligence levels, significantly improving the reliability and consistency of our robot products.

The quality yield rate reaches

**99.1%**



### Fully Automated Flexible Processing Line

In our quest for high-quality products, beyond the operational smart assembly line that utilizes our robots to produce other robots, the Company has further heightened the automation level in component production. Through automated electronic production lines, we achieve efficient, flexible lean manufacturing of electronic core components. High-precision FMS lines enable more than 90% in-house machining of critical mechanical components for robots, along with automated workpiece identification, program loading, and final product inspection, substantially enhancing the efficiency and quality of robot production.





## Reliability Testing Facilities and Management

The Estun Reliability Testing Center in Nanjing features nine laboratories, five testing teams, and thirty specialized testing directions. It is equipped with hundreds of professional testing devices and instruments, and thousands of testing methodologies and use cases, enabling comprehensive interception of product issues. The facility includes advanced testing equipment such as an EMC anechoic chamber, Rohde & Schwarz EMC testing equipment, triaxial test equipment, walk-in low-pressure test chambers, walk-in sand and dust test chambers, rain testing laboratory equipment, Leica laser trackers, a world-class motor performance testing platform, and an encoder accuracy testing platform, all significantly boosting our R&D quality and product reliability.



### Case Launch of Estun's New Reliability Testing Center

In 2023, Estun's Reliability Testing Center completed the construction, outfitting, and relocation of a new laboratory, establishing itself as a premier domestic professional reliability laboratory. Following rigorous evaluations by internationally acclaimed third-party organizations such as TÜV Rheinland and UL U.S., it has secured multiple certifications including functional safety, European CE and UKCA, North American safety (UL), and Level 1 energy efficiency for motors, among other domestic and international standards. The center has introduced an array of professional testing equipment and commenced the process of obtaining CNAS (China National Accreditation Service for Conformity Assessment) accreditation. It is presently in trial operation in compliance with ISO 17025 system requirements to ensure the credibility of its testing results and data.



# Customer Service Assurance

Estun consistently prioritizes customer needs, focusing its service strategy on ensuring customer satisfaction and protecting customers' legitimate rights and interests. The Company keeps refining its customer service system and is committed to achieving customer satisfaction through exemplary service quality.

## Ensuring Information Security

Estun respects and safeguards customer privacy, adhering strictly to the *Cybersecurity Law of the People's Republic of China*, *Data Security Law of the People's Republic of China*, and *Personal Information Protection Law of the People's Republic of China*, among other relevant legislations. The Company has established comprehensive internal policies including the *Information Security and Confidentiality System*, *Data Center Management System*, *Information Security Management Measures for R&D and Technology*, *Estun Data Security Solutions*, and *Information Security Risk Assessment Management Measures*. In 2023, Estun significantly enhanced its information security management capabilities, bolstering the protection of data security and customer privacy.

Information security training sessions: **3** reaching **65%** of employees

Information security emergency drills: **2**

Information leak incidents: **0**

### Enhancing Protective Capabilities

Estun utilizes advanced information security technologies, employs data encryption software and secure networks, and conducts database segmentation to maintain strict control over company data. It effectively isolates internal from external network data to prevent malicious attacks and virus proliferation, ensuring the security of the Company's internal networks. A robust antivirus mechanism is maintained, with regular updates to the server-side virus database to ensure secure data transmission and uphold information security at a technical level.

### Strengthening Data Management

Information data are structured, decentralized, categorized, and managed by levels. The Company implements effective protection measures according to its standardized management specifications for categorized and leveled data. Clear regulations are set for account and permission management to ensure graded and categorized control of personnel accounts and permissions, preventing unauthorized access to sensitive data. A comprehensive data backup policy is established, specifying data backup mechanisms and implementing dual hot backups to facilitate rapid recovery in case of data loss or damage, and to prevent accidental deletion or modification of data.

### Reinforcing Emergency Management

Estun has formulated the *Data Security Incident Emergency Plan* and *Data Center Emergency Plan*, developing thorough emergency management procedures for data and information leaks to ensure timely and effective protection of company information. Regular information security attack and defense drills, along with resilience tests, are conducted to strengthen the management and resolution of emergency situations. Clear procedures are outlined for responding to sudden incidents in information systems, enhancing the Company's emergency response capabilities.

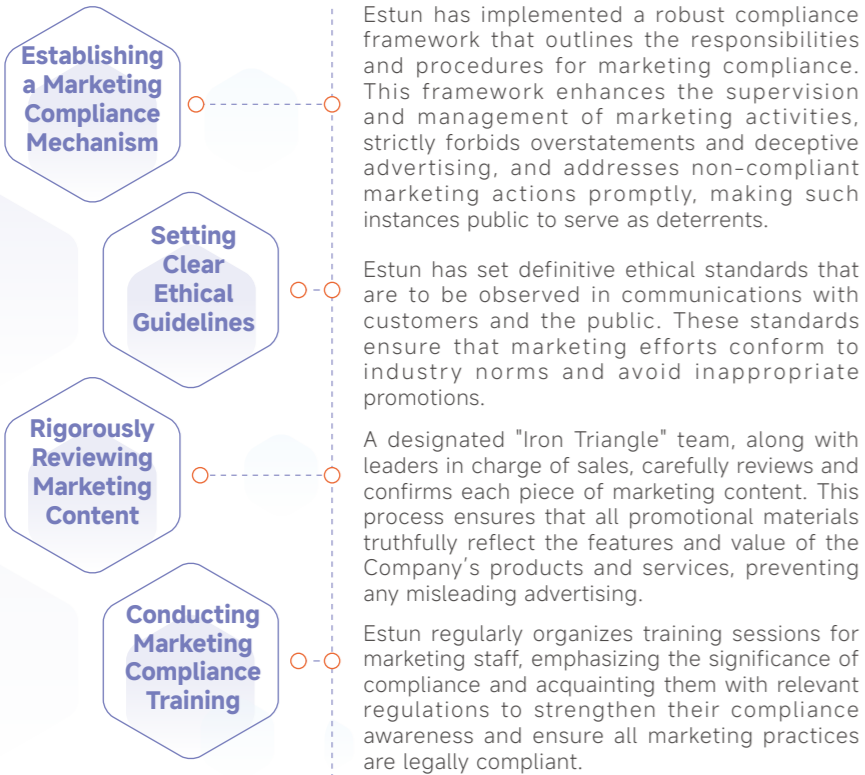
### Conducting Information Security Training

The Company provides specialized information security training for employees, tailored to the requirements of various roles, to deepen all employees' understanding of and attention to information security. Employees are required to sign confidentiality agreements to reinforce their awareness of information and data security, ensuring robust protection against information leaks.



## Implementing Responsible Marketing

Estun strictly adheres to the *Advertising Law of the People's Republic of China*, the *Trademark Law of the People's Republic of China*, and other pertinent laws and regulations. The Company maintains a responsible marketing philosophy, standardizing conduct across product branding, promotion, and sales to deliver comprehensive and precise information about products and services to customers. Estun also conducts responsible marketing training for sales personnel to effectively protect customers' legal rights and interests.



Estun has implemented a robust compliance framework that outlines the responsibilities and procedures for marketing compliance. This framework enhances the supervision and management of marketing activities, strictly forbids overstatements and deceptive advertising, and addresses non-compliant marketing actions promptly, making such instances public to serve as deterrents.

Estun has set definitive ethical standards that are to be observed in communications with customers and the public. These standards ensure that marketing efforts conform to industry norms and avoid inappropriate promotions.

A designated "Iron Triangle" team, along with leaders in charge of sales, carefully reviews and confirms each piece of marketing content. This process ensures that all promotional materials truthfully reflect the features and value of the Company's products and services, preventing any misleading advertising.

Estun regularly organizes training sessions for marketing staff, emphasizing the significance of compliance and acquainting them with relevant regulations to strengthen their compliance awareness and ensure all marketing practices are legally compliant.

Attendees in offline responsible marketing training:

**438**

Total hours of online responsible marketing training:

**37,258.5** hours

Average training hours per salesperson for online responsible marketing:

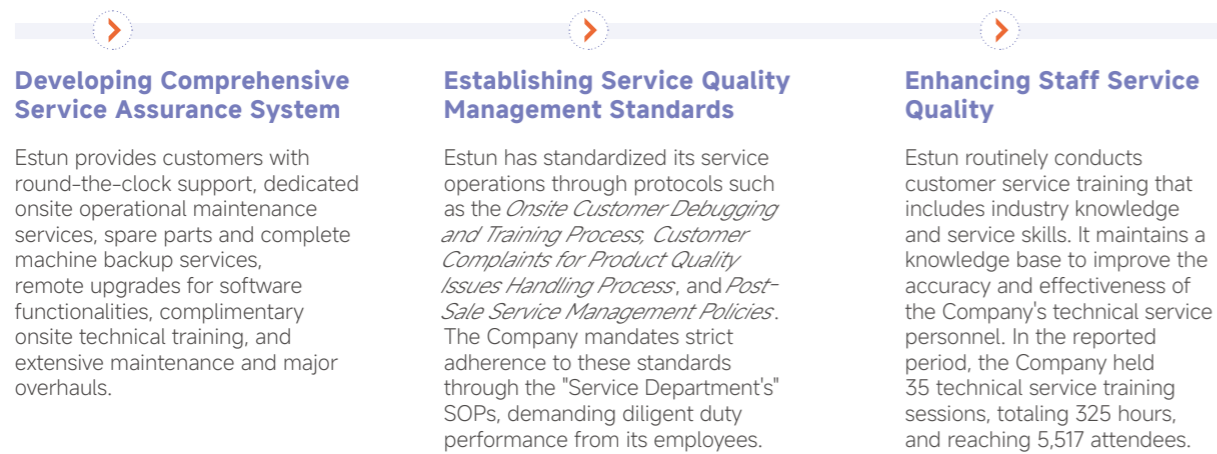
**84.9** hours

Coverage rate of responsible marketing training for sales personnel:

**100%**

## Optimizing Customer Services

Estun embraces a customer-centric service philosophy and has established a comprehensive service assurance system to provide prompt and thorough after-sales service, continuously enhancing service quality and customer satisfaction.



### Developing Comprehensive Service Assurance System

Estun provides customers with round-the-clock support, dedicated onsite operational maintenance services, spare parts and complete machine backup services, remote upgrades for software functionalities, complimentary onsite technical training, and extensive maintenance and major overhauls.

### Establishing Service Quality Management Standards

Estun has standardized its service operations through protocols such as the *Onsite Customer Debugging and Training Process*, *Customer Complaints for Product Quality Issues Handling Process*, and *Post-Sale Service Management Policies*. The Company mandates strict adherence to these standards through the "Service Department's" SOPs, demanding diligent duty performance from its employees.

### Enhancing Staff Service Quality

Estun routinely conducts customer service training that includes industry knowledge and service skills. It maintains a knowledge base to improve the accuracy and effectiveness of the Company's technical service personnel. In the reported period, the Company held 35 technical service training sessions, totaling 325 hours, and reaching 5,517 attendees.

## Case Technological Empowerment to Support Partner Growth

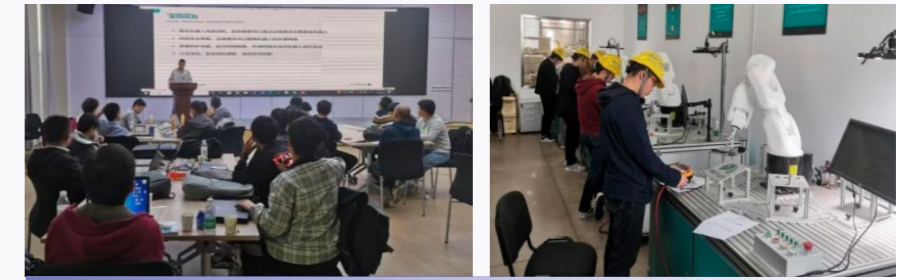
In 2023, as Estun's robotics business expanded, the Company's global delivery team organized multiple technical training sessions for distributors, integrators, channel partners, and end-users, covering robot operation, programming, and common troubleshooting techniques. To ensure the practical application of theoretical knowledge, hands-on training courses were established, enabling attendees to gain experience and become proficient with Estun robots through repeated practice. These external technical training initiatives significantly enhance our customers' and partners' ability to quickly and effectively master Estun robots, thereby improving their overall technical and operational proficiency.

Training sessions provided to customers:

**29**

Total duration of customer technical training:

**768** hours



Major customer specialized training

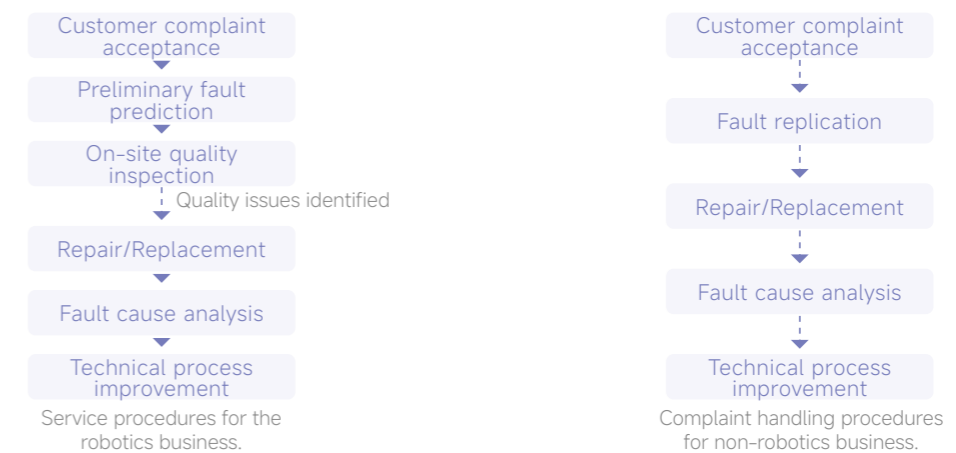
### Performing Customer Satisfaction Surveys

Estun places a high value on customer satisfaction, conducting regular surveys to evaluate and refine company services, measure service quality, and understand authentic customer needs and feedback. This targeted approach facilitates specific improvements in customer service.

In 2023, the Company completed its annual satisfaction survey in accordance with the *Customer Satisfaction Survey Management Process*, encompassing aspects of design, R&D, branding, products, services, and delivery. Analysis of the results indicated an overall customer satisfaction rating of 87.2, with particularly high scores in products and services. Moreover, based on the survey outcomes, follow-up visits were conducted with less satisfied customers to better understand and continually enhance the Company's offerings, ensuring customer needs are effectively met.

### Responding to Customer Complaints

Estun prioritizes the effective response to and handling of customer complaints, actively listening to and addressing customer suggestions and concerns. To standardize the process for managing complaints regarding product quality issues and ensure timely and efficient resolutions, the Company established the *Customer Complaints for Product Quality Issues Handling Process*. This outlines the complaint handling procedures for both the robotics and non-robotics business units. Depending on the nature of the product or service, customers can report issues promptly and effectively via a 400 hotline, email, or official social media channels. Every complaint is supervised by the respective division's management team. Based on the nature of the complaints, the Company quickly addresses and corrects the issues to prevent their recurrence, constantly enhancing its products and services.



Complaint Handling Process Diagram



# Governance: Ensuring More Robust Development

Only through good corporate governance can a company achieve stability and long-term success. Estun steadfastly refines its corporate governance structure and consistently focuses on risk management within the Company. We firmly uphold the bottom line of business ethics, advance the development of anti-corruption systems, and enhance supplier management. We also promote mutual growth throughout the supply chain to foster the sustainable and healthy development of the Company.

## Contributing to UN SDGs



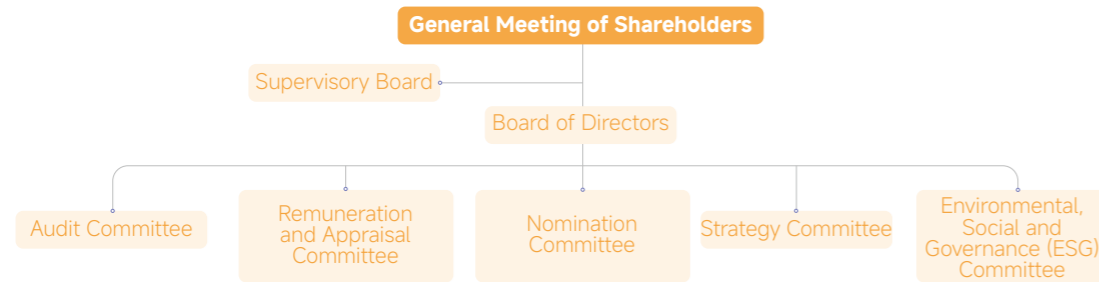


# Improving Corporate Governance

Estun has proactively enhanced its corporate governance framework to elevate the standardization and effectiveness of its governance practices. By further refining its approach to information disclosure and investor communication, the Company enables stable, long-term operations that better align with the expectations of shareholders, employees, partners, and other stakeholders.

## Corporate Governance Overview

Estun strictly adheres to legal and regulatory requirements such as the *Company Law of the People's Republic of China*, the *Securities Law of the People's Republic of China*, *Code of Corporate Governance for Listed Companies*, the *Rules Governing the Listing of Shares on Shenzhen Stock Exchange*, and the *Shenzhen Stock Exchange Listed Companies Self-disciplinary Supervision Guidelines No. 1 - Rules for the Standard Operation of Main Board Listed Companies*, as well as *Articles of Association* and other internal corporate statutes. We consistently enhance our management systems and governance mechanisms, establish robust internal controls, and effectively ensure the fairness and scientific nature of the Company's governance decisions. All corporate governance bodies, including the General Meeting of Shareholders, the Board of Directors and its specialized committees, the Supervisory Board, independent directors, the board secretary, and the management team, function legally and responsibly. They diligently fulfill their respective duties and obligations, promoting the Company's operational compliance and enhancing its risk mitigation capabilities.



### General Meeting of Shareholders

The Company rigorously convenes and conducts shareholder meetings in strict compliance with the *Company Law of the People's Republic of China*, the *Securities Law of the People's Republic of China*, the *Rules for Shareholder Meetings of Listed Companies*, and other relevant laws and regulations, as well as the *Articles of Association* and *Rule of Procedure of Shareholders Meeting*. It ensures the full respect of all shareholders and guarantees their rights to be informed about, participate in, and vote on critical company matters. Furthermore, in line with regulatory expectations, the Company disseminates announcements of resolutions from these meetings and associated legal opinions.

Held **3** shareholders' meetings  
Reviewed and approved **20** proposals

### Board of Directors

The Board of Directors of the Company is comprised of 9 members, including 6 non-independent directors and 3 independent directors, with one of the directors being a female. As the decision-making body for the Company's operations, the Board of Directors has crafted the *Rules of Procedure for the Board of Directors* under the guidance of applicable legal requirements and the *Articles of Association*. The objective of these rules is to ensure that the Board and its directors fulfill their duties effectively and enhance the standardized functioning and strategic decision-making capacity of the Board. The Board of Directors comprises 5 specialized committees: the Audit Committee, the Nomination Committee, the Compensation and Evaluation Committee, the Strategy Committee, and the Environmental, Social and Governance (ESG) Committee. Each committee carries out its responsibilities in accordance with the provisions of the Company's *Articles of Association* and the specific implementation rules of the respective committees. Their role is to offer insightful advice to facilitate the overall effectiveness of the Board's operations.

Held **9** board of directors meetings

Reviewed and approved **70** proposals

### Supervisory Board

The Supervisory Board is comprised of 3 members, with 2 supervisors representing the shareholders and 1 acting on behalf of the employees. Within the Supervisory Board, two are female supervisors. In compliance with the *Articles of Association* and *Rules of Procedure for the Supervisory Board*, the Supervisory Board performs its responsibilities by overseeing significant company matters, financial conditions, and the lawful and compliant performance of directors and senior management, aimed at protecting the legitimate rights and interests of the Company, its shareholders, employees, and other stakeholders.

Held **9** supervisory board meetings

Reviewed and approved **34** proposals

## Board Independence

The Company strictly abides by the *Measures for the Administration of Independent Directors of Listed Companies* and has established the *Independent Director System*, ensuring that the role of independent directors in corporate governance is fully exercised. The Board of Directors is comprised of 9 members, with independent directors making up 33.33% of the Board, and none of them hold company shares in any form. The five specialized committees under the Board of Directors all include independent directors in their membership. The Audit Committee consists exclusively of independent directors, and the Nomination Committee as well as the Compensation and Evaluation Committee have over 60% independent directors, with an independent director serving as the chairperson of each committee. This structure effectively ensures the objectivity and impartiality of the Board's decision-making process. For an in-depth overview of the composition and performance of the Board of Directors, the responsibilities of the Board and the management team, the structure and operational dynamics of the specialized committees, and the execution of duties by independent directors, please refer to the Corporate Governance section of the *Estun Automation Co., Ltd. 2023 Annual Report*.

## Board Diversity

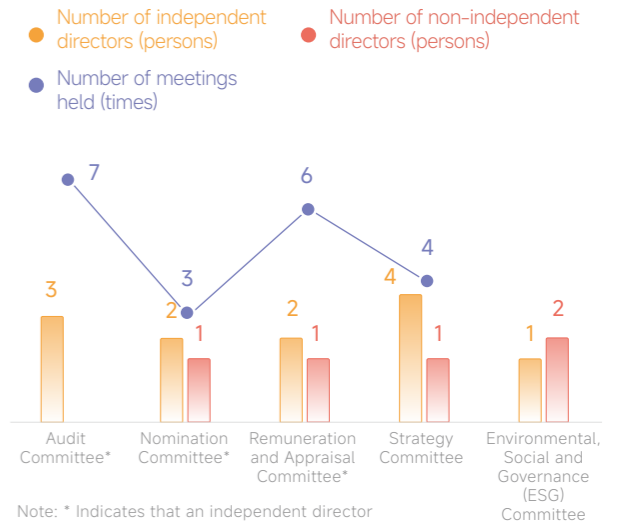
The Company also places great emphasis on the diversity of the Board members and adheres to a policy of diversity for member selection. We take into account a range of factors including diverse cultures, educational backgrounds, work experiences, gender, and age, in order to provide the Company with a more holistic perspective and insights. This diversity supports the making of more comprehensive and objective decisions. Furthermore, the Board members bring to the table a balanced mix of expertise and abilities, with a strong foundation in theory and hands-on experience across disciplines including engineering, mechanical engineering, accounting, economics, and business management. Mr. Chen Heng, the Chair of the Audit Committee and an independent director, is a certified public accountant and a senior accountant with a wealth of financial background and experience. He has served as the Chief Financial Officer in other listed companies, which equips him with the capability to effectively implement internal financial controls and manage risks.

## Enhancing Governance Level

The Company is proactively conducting training programs related to corporate governance to further enhance the development of our talent pool among directors, supervisors, and senior executives. By solidifying a standardized operational framework, we aim to improve the overall performance capabilities of our management team. This approach plays a constructive role in advancing the modernization of governance structures and competencies, contributing to the Company's high-quality growth. In 2023, the directors, supervisors, and senior executives of the Company participated in 7 training sessions held by the Shenzhen Stock Exchange and regulatory authorities and 1 in-house training session. 1 inter-departmental exchange meeting on disclosure compliance was also held.



## Composition of Specialized Committees of the Board of Directors



Note: \* Indicates that an independent director serves as the chair of the committee.



Training in standardized operations for listed companies



## Investor Rights Protection

The Company adheres strictly to the laws and regulations prescribed by the *Company Law of the People's Republic of China*, the *Securities Law of the People's Republic of China*, and the *Work Guidelines for the Investor Relations Management of Listed Companies*, as well as provisions in the *Articles of Association*. In alignment with these regulations, we have crafted policies such as the *Investor Relations Management System* and the *Confidentiality Management System* to facilitate investor relations management. We are committed to providing disclosure of information that is truthful, accurate, complete, and timely, ensuring that investors are fully informed of significant corporate matters and can exercise their rights to participate accordingly.

### Information Disclosure

Information disclosure acts as a vital conduit for listed companies to demonstrate their value and stands as the essential reference for investors to formulate their investment judgments and choices. Ever since going public, Estun has been committed to "consistently enhancing transparency with investor needs in mind" in its information disclosure practices. We have established regulations such as the *Information Disclosure Management System* and the *Insider Information Registration System*, standardizing the processes for information transmission, review management, disclosure procedures, confidentiality measures, document management, and accountability. Estun relentlessly works to enhance the caliber of its information disclosures to boost the Company's openness and trustworthiness.

### Investor Communication

The Company upholds a philosophy of "integrity, compliance, and professionalism" in investor relations, and has established multiple channels for effective communication with shareholders. These channels include investor hotlines, email correspondence, on-site investor research visits, performance briefings, and [irm.cninfo.com.cn](http://irm.cninfo.com.cn), ensuring that shareholders and potential investors have timely access to corporate information. We maintain strong, comprehensive, and efficient communication with investors who focus on the Company's development, enhancing their understanding and recognition of the Company and cultivating a constructive engagement mechanism with our investor community.

We respect and fully safeguard the rights of all shareholders as owners of the Company, and equally protect the interests of small and medium-sized shareholders. We maintain open and patient communication with our small and medium-sized shareholders, and proactively offer tours of the Company's production sites. Complying with the legal requirements of shareholder meetings, we promptly disclose significant corporate developments by regularly posting updates on the Company's daily operations via its official WeChat account, which provides small and medium investors with a better understanding of the latest company activities.

Disclosed

**4** periodic reports

and

**187** interim reports

Received the highest rating of Grade **A** for information disclosure by the Shenzhen Stock Exchange for

**six consecutive years**

Responses on [irm.cninfo.com.cn](http://irm.cninfo.com.cn):

**113**

Investor communication events held: with a total of

**6**

**3,317** attendances

Investor research visits hosted:

**141**

Calls from small and medium investors answered:

over **100**



Foreign investors visiting the demonstration workshop



Institutional analysts and investors visiting

# Fortifying Risk Defenses

The Company is constantly refining its risk management and internal control frameworks to create a favorable internal environment for risk containment and efficient operations, ensuring sustainable and healthy development.

## Strengthening Risk Prevention and Control

Estun consistently improves its risk management systems, creating robust mechanisms for risk prevention, and enhancing capabilities in risk identification, assessment, control, and mitigation. By refining our risk management procedures, we ensure the healthy and robust growth of all business operations. Additionally, we closely monitor the major risks closely associated with the Company's operations, ensuring that these risks are managed effectively to maintain stable business operations.

The Company has implemented a reliable risk management and internal control system. The Audit Committee, operating under the Board of Directors, exercises efficient oversight and review of the operational risk management performance, ensuring overall risks are maintained at an acceptable level. The committee reports to the Board at least quarterly on related matters. The Company has an internal audit department (Audit Department), responsible for organizing and implementing daily audit work, and supervising the authenticity and integrity of the Company's financial information, as well as the establishment and implementation of internal control systems. The Audit Department is accountable to the Audit Committee and regularly reports its activities to the committee. The appointment or dismissal of the Director of the Audit Department is determined by the Board of Directors upon the nomination of the Audit Committee.

Moreover, the Board of Directors has empowered other committees, such as the ESG Committee, to undertake specific risk management tasks within their respective areas of expertise. In 2023, the Company integrated ESG risk management into its comprehensive risk management framework and developed policies such as the *Estun Risk Management System* and the *Estun Whistleblower Management System*. With closed-loop management practices that involve risk identification, evaluation, mitigation, and supervision, the Company has further enhanced its capabilities in risk prevention and control.

We advocate for our staff to engage in the development of a risk management culture within our enterprise, one that is grounded in diligence, responsibility, and uncompromising honesty. To further enhance risk awareness among all staff members, we have implemented training and advocacy initiatives to increase employees' understanding of risk management. This has fostered a culture of collective risk prevention, establishing a robust groundwork for the Company's risk management endeavors.



### Case

## "Strengthening Legal Foundations" Monthly Legal Education

In 2023, we are rolling out a "Monthly Legal Knowledge Enhancement" series every month on our corporate WeChat account "Estun Style." By systematically promoting knowledge of legal and compliance risks, we aim to elevate the entire company staff's awareness of laws and regulations, thereby mitigating potential risks encountered in their daily work and interactions with business partners.

**10** articles issued on the theme of legal awareness promotion

The articles on legal awareness were read

**2,817** times

普法强基每月学法——提升企业竞争力，保护商业秘密

2023-05-11 埃斯顿文化君






普法强基每月学法——维护企业品牌，注重商标保护！

2023-07-14 埃斯顿文化君



## Internal Control and Compliance Management

The Company adopts an approach of "audit + internal control + compliance," which concentrates on generating value through the business audit processes related to supply, production, sales, human resources, finance, and materials. We strive to fortify the construction of the internal control framework to guarantee the standardized operation of business processes and to advance the management of legal compliance. Furthermore, we have developed and enhanced our internal control manual to mitigate operational risks. We have intensified internal audit processes to promptly identify and rectify issues, ensuring that all company operations are conducted in compliance with regulations.

 <h3>Refining System Framework</h3> <p>In 2023, the Company developed a suite of management protocols, including the <i>Estun Contract and Agreement Number Management System</i>, <i>Exit Audit System</i>, <i>Estun Special Business Internal Management System</i>, <i>Internal Control System</i>, and <i>Internal Audit System</i>. These initiatives have further refined our institutional framework.</p>	 <h3>Enhancing Internal Control Standards</h3> <p>In 2023, the Company developed eight internal control manuals, encompassing sectors such as information, engineering, finance, quality, contractual matters, sales, research and development, and human resources. We systematically identified risks, control measures, and supervision mechanisms for these key areas. Moreover, we conducted a thorough review of sales and procurement business contracts as well as human resource legal documents, creating 67 standardized templates to further streamline business process operations.</p>	 <h3>Strengthening Overall Auditing</h3> <p>In 2023, we successfully conducted 18 audit projects, encompassing evaluations of our information systems, quality assurance processes, ethical marketing practices, adherence to business ethics and anti-corruption measures, as well as targeted audits addressing potential conflicts of interest. Additionally, we have intensified audits for all bidding projects, gradually shifting risk management from retrospective auditing to proactive and concurrent control, thus mitigating potential risks associated with risk management.</p>
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# Adherence to Business Ethics

To maintain consistent compliance with business operations and to realize corporate integrity and ethical business management, Estun strictly observes laws and regulations such as the *Civil Code of the People's Republic of China*, the *Anti-Unfair Competition Law of the People's Republic of China*, the *Interim Provisions on Banning Commercial Bribery*, and other relevant anti-bribery, anti-fraud, anti-money laundering, and fair competition legislation of the countries and regions where it operates and invests. We have developed and strictly implemented a set of internal control systems such as the *Estun Professional Ethics Red Line Management System* and the *Commercial Gift Management System*. Furthermore, our *Employee Handbook* clearly stipulates anti-corruption behavioral guidelines, which are regularly updated to enable rigorous management of matters related to anti-corruption and business ethics. For key positions within the Company, new hires are required to fill out a Key Position Information Registration Form as part of the onboarding process. We have also introduced the Gift Declaration Form, an online procedure in the OA system, to formalize the acceptance of gifts to prevent corruption.

We require every new recruit to participate in training sessions focused on professional ethics, behavioral standards, and integrity culture. This includes conducting Employee Professional Ethics Red Line Training, and sharing informative posts on "Integrity Warning and Education Dissemination - Bribery Crimes for Non-government Employees" via our official WeChat account. We leverage the resources of our in-house Estun Academy and anti-fraud training sessions to consistently enhance the awareness of integrity among all our employees. Moreover, based on the reports in the anti-corruption risk database, we initiate targeted audits on business ethics and anti-corruption as needed.



Anti-corruption training coverage:

**100** %

Special Audit on business ethics and anti-corruption conducted:

**3** times

## Whistleblower Protection

The Company has established the *Estun Whistleblower Management System*, which clearly defines the procedures for handling whistleblower reports, the protection system and regulations for whistleblowers, as well as the key actions for whistleblower protection. We have established multiple channels for whistleblowing, encouraging employees, clients, suppliers, and other third parties to report any activities that may breach business ethics, laws, or other relevant policies. The Company ensures that all reports are handled by dedicated investigators with professional skills and guarantees the confidentiality of the whistleblowers' information. Any form of retaliation against the whistleblowers and relevant personnel is prohibited, creating a working environment of honesty and integrity.

During the reporting period, Estun experienced no illegal or non-compliant activities related to corruption, bribery, conflicts of interest, fraud, money laundering, or unfair competition that violated laws or regulations.

### Whistleblowing Channels



**Tel:** (025) 52785932

**Email:** sjjb@estun.com

**Mail Reporting:** Estun Inspection, Audit, and Legal Affairs Department, 1888 Jiyin Avenue, Jiangning District, Nanjing, China

**Appointment-based on-site whistleblowing**

## Supply Chain Integrity Management

We require all suppliers to agree to sign an integrity commitment clause, which stipulates that all partners must adhere to legal standards for anti-corruption and anti-bribery. It explicitly requires a pledge to refrain from engaging in any form of commercial bribery towards our employees. In our supplier audits and qualification reviews, we encompass an assessment of their business ethics management. As part of this process, any potential new suppliers are required to sign a *Supplier Commitment Letter* at the preliminary stage. We conduct integrity advocacy for all suppliers by sending letters to promote transparent cooperation through internal systems, emails, and other channels during major holidays, aiming to collectively prevent corruption and bribery across the supply chain.

Signing rate for the *Supplier Commitment Letter*:

**100** %

In 2023, the *Supplier Commitment Letter* is revised with updates in clauses pertaining to business ethics such as anti-corruption, anti-monopoly, and anti-unfair competition, explicitly defining the principles of "Transparency and Integrity" and "Compliance Commitment." We remain steadfast in strengthening commercial integrity management for our suppliers. Our policy is one of zero tolerance toward any acts of fraud, breach of trust, malicious bid collusion, willful bid abandonment, or intentional default. Upon verification through investigation, the Company will cease cooperation with any non-compliant suppliers and place them under blacklist management.

## Supply Chain Management

Estun adheres to the procurement philosophy of "constructing high-quality strategic ecological partnerships with supply safety as the baseline and the creation of an industrial ecosystem as the value." We strive to establish long-term, stable, and mutually beneficial relationships with our suppliers to jointly develop a high-quality, sustainable, and responsible supply chain.

### Supplier Management System

The Company has established comprehensive management systems, including the *Management System for Productive Material Suppliers*, *Management System for Non-Productive Material Suppliers*, *Strategic Suppliers Management Procedures*, *Supplier Performance Management System*, and *Supplier On-Site Management System*. These systems create a full lifecycle management framework for suppliers, from their admission to exit. We incorporate the Company's quality standards into our supply chain management and establish tailored rules for managing various types of suppliers to enhance our supplier oversight capabilities. The Company has also implemented comprehensive inspections for all incoming materials to guarantee that only quality-approved materials can enter the production process.



Total Number of Suppliers

**499**

Number of suppliers by region

Chinese Mainland

**441**

Hong Kong, Macao and Taiwan

**2**

Overseas suppliers

**56**



### Full Lifecycle Management

- Based on the management requirements of the *Supplier Development Application Form* and the *New Supplier Survey Form*, we assess whether to proceed with onboarding a new supplier.
- We provide our suppliers with four agreements of the Company, which include the *Quality Agreement*, *General Purchasing Framework Agreement*, *Confidentiality Agreement*, and *Supplier Commitment Letter*.

- Following the guidelines outlined in the *Supplier Performance Evaluation and Elimination Management Procedures*, we carry out monthly evaluations of our suppliers across key areas including quality, supply, technology, service, and cost, with the results subsequently compiled and summarized.



- Suppliers who have been rated C or lower for two consecutive months should be listed in a *Supplier Elimination Recommendation Form* and the elimination plan should be communicated to the relevant departments.
- Suppliers who have received a D rating for two consecutive months will be included in the supplier elimination plan by the procurement department, and relevant elimination work will be carried out.
- Suppliers on the elimination list must scale down their supply ratio, with a three-month grace period for phasing out.
- If a supplier's products face quality issues in the market and they refuse to address these problems, we will terminate our procurement from them and hold them accountable for any related liabilities and losses.

- We categorize suppliers into four classes: A, B, C, and D. Those who maintain an A rating for over six consecutive months can be considered as strategic partners. Suppliers in category B will be engaged as usual. Meanwhile, suppliers in categories C and D will receive either support for improvement or be phased out.



### Enhancing Supply Chain Resilience

To ensure a stable supply of strategic resources, the Company consistently refines its supply chain structure and achieves supplier diversification and multi-channel sourcing, enhancing the resilience and rapid response capabilities of the supply chain system. In 2023, we conducted category management, systematically reviewing more than 100,000 materials and nearly 500 suppliers. We categorized them by type and then formed procurement teams and developed procurement strategies to enhance procurement efficiency.

- We have created a Supply Elimination Working Group led by the head of the integrated supply chain, with team members drawn from the R&D, quality control, and procurement departments. Their task is to periodically evaluate exclusive, high-risk materials used by the Company, create appropriate solutions, and hold weekly meetings to assess and refine progress in addressing these issues. For key materials that have no alternative sources in the market, we are proactively fostering strategic relationships to enhance the support from suppliers.



- Each year, we conduct a specialized review of our key long-term material inventory and establish performance targets for the period. We have consistently surpassed our annual backup objectives.

- Our purchasing center and R&D have established a dedicated standardization team to address issues related to material standardization. This involves unifying the coding for primary and backup materials and adjusting procurement shares based on supply risk and cost considerations.

### Sustainable Supply Chain

The Company incorporates sustainable practices within its supply chain management system, actively managing environmental and social risks associated with suppliers. On top of maintaining quality and ensuring continuous operations, we embed ESG criteria into our processes for supplier qualification and management, ensuring their performance aligns with our social and environmental expectations.

We also place great emphasis on the risk evaluation of critical suppliers, and pay close attention to non-key suppliers operating in industries or regions prone to high ESG risks. Should any major dispute arise, once confirmed, we will terminate our collaboration.

When selecting suppliers, we consider multiple ESG factors to gain a thorough understanding of suppliers' sustainability performance. During the supplier admission stage, all suppliers are required to sign the *Supplier Commitment Letter*, in which they commit to labor rights, compliant employment, occupational health and safety, anti-corruption, and clean operations. For administrative procurement, priority is given to suppliers with strong environmental awareness and green environmental products certified by environmental protection, thereby reducing the environmental impact of procurement activities.



### Case Launching SRM Supplier Management System to Enhance Procurement Efficiency

As the Company's business expands, collaboration between Estun and suppliers is becoming increasingly important. However, the lack of a unified centralized platform for management, more reliance on manual offline execution of tasks, and the inability to achieve dynamic management and monitoring of suppliers are increasingly evident challenges. To enhance the end-to-end management of supplier lifecycle, we launched the SRM Supplier Management System in 2023. This system digitizes the entire process from supplier development, performance management, bidding, ordering, receiving, to reconciliation. By streamlining information flow across internal and external systems within the supply chain, it effectively shortens the procurement cycle, reduces inventory, minimizes delayed deliveries, and enhances procurement efficiency, ensuring a better production process.

#### Supplier Assessment and Enhancement

We carry out supplier audits annually. By the end of each December, we develop the Annual Supplier Process Audit Plan based on the yearly performance of suppliers, which includes conducting on-site audits and resulting in detailed audit reports and conclusions. We actively monitor the progress of supplier rectifications and provide necessary guidance to suppliers in areas such as systems, quality, and technology, to ensure timely resolution of issues and support suppliers in their improvement endeavors.

Furthermore, we actively implement a special program for supply chain optimization enhancement. We conduct quality training, guidance, and technical exchanges with suppliers multiple times

a year, including confidentiality system learning, empowerment training, integrated supply chain cadre advocacy, product knowledge training, etc. Additionally, based on actual circumstances, we actively engage in technical exchanges to continuously empower and strengthen the quality awareness and management capabilities of the upstream and downstream of the supply chain.

Supplier process audits conducted:      Supplier training sessions held:      with a total attendance of

**39**                      **14**                      **174**



# Low Carbon: Making the World Greener

To further support the achievement of China's "dual carbon" targets and the global shift towards zero emissions, Estun has integrated green development into both its corporate strategy and daily operations. The Company develops low-carbon products and solutions using green design throughout their entire lifecycle, thus facilitating low-carbon development across various industries. By analyzing climate risks and opportunities, implementing energy-saving and consumption-reduction measures, conserving resources, minimizing waste, and advocating for green office practices, Estun proactively assumes its environmental responsibilities, promoting harmonious coexistence between humans and nature.

## Contributing to UN SDGs





# Enhancing Environmental Management

Estun actively responds to national mandates for green and low-carbon development, adhering strictly to the *Environmental Protection Law of the People's Republic of China*, *Energy Conservation Law of the People's Republic of China*, and relevant international environmental regulations. The Company has incorporated the principles of green, low-carbon, and sustainable development into its organizational structure, set scientifically based environmental management objectives, and constantly enhanced its environmental management system. Alongside environmental protection training and environmental emergency management, these efforts are aimed at achieving simultaneous progress in corporate development and environmental protection.

Environmental protection investment: RMB

1,928,000

## Environmental Management System

Estun has established an Environmental and Safety Management Committee, chaired by the General Manager, with a dedicated EHS department responsible for approving environmental policies and overseeing the management and advancement of environmental tasks. The Company has developed and issued various environmental management policies, including the *Environmental Management System*, *Energy Management System*, and *Energy Management Manual*, which regulate emissions of exhaust gases and wastewater, disposal of hazardous and non-hazardous waste, and the usage of energy, water resources, and materials, thereby actively upholding environmental responsibilities.

The environmental management system is subject to annual internal audits and external audits based on ISO 14001:2015 standards. In 2023, the Company passed a third-party supervisory audit and has continuously improved its environmental management practices based on the audit outcomes.

## Environmental Management Goals

Estun places significant emphasis on managing key environmental performance goals. At the start of each year, it sets EHS objectives and signs safety and environmental accountability agreements with each department, which are integrated into the departmental performance evaluations. Furthermore, agreements with management tie a portion of their compensation to an environmental reward fund, which is allocated based on the achievement of environmental performance goals, thus enhancing the Company's capabilities for green development.

Indicator	Goal for 2023	Target Achievement
Environmental Pollution Incidents	0	All standards met
Compliance Rates for Emissions of Wastewater, Exhaust Gases, and Factory Boundary Noise	100%	
Hazardous Waste Disposal Compliance Rate	100%	

## Environmental Capability Enhancement

Estun is committed to preventing and responding to sudden environmental incidents, continuously strengthening environmental training and emergency management to improve the Company's overall environmental management capabilities. Emergency response plans tailored to the specific environmental risks of each plant are prepared, and targeted emergency drills, such as those for paint, cleaning fluid, and waste oil leaks, are conducted to enhance the emergency team's response capabilities and reduce the potential hazards of such incidents.

To increase employee awareness of environmental protection, we conduct new employee orientation, specialized environmental training, morning briefings, and routine environmental inspections. These initiatives help to instill environmental knowledge in employees, promptly identify and mitigate environmental risks in production areas, and consistently elevate the standard of our environmental protection efforts.

Environmental training sessions:

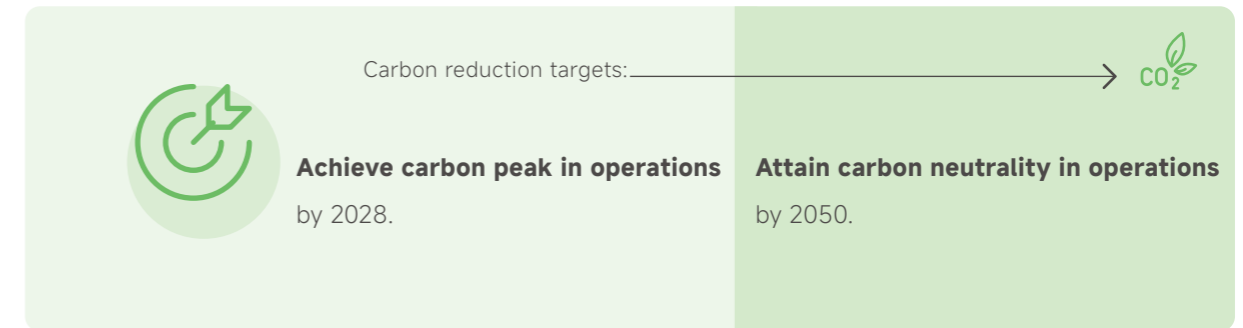
28

Training attendees:

2,600

# Addressing Climate Change

Climate change is a universal challenge with critical implications for the sustainable development of the Chinese nation and the future of humanity. Estun actively aligns with the *Paris Agreement* and the Chinese government's *National Strategy for Climate Change Adaptation 2035*. The Company prioritizes identifying and managing climate risks, advancing energy-saving and emissions-reduction initiatives, and, through green design across product lifecycles, supporting the high-quality development of the new energy sector. These efforts contribute to achieving the "carbon peak" and "carbon neutrality" targets.



## Climate Risks and Opportunities

Facing the new challenges and opportunities of the nation's accelerated green development, Estun is intensifying its research on climate change issues. The Company proactively identifies potential climate-related impacts on its operations and actively develops measures to address these climate risks and opportunities.

Main Impact Categories	Potential Climate Change Impacts Related to Estun	Response Strategies
Physical Risks	<ul style="list-style-type: none"> <li>Global climate change has exacerbated extreme weather phenomena, posing potential risks to the stability of production operations, as well as to the safety of facilities, equipment, and employee commutes.</li> </ul>	<ul style="list-style-type: none"> <li>Develop emergency operation plans, shift to flexible and adaptive supply chains, and perform predictive analyses of future impacts.</li> </ul>
Transition Risks	<ul style="list-style-type: none"> <li><b>Market Demand Changes:</b> With increasing calls for "dual carbon" objectives and climate change mitigation, market demands may evolve, setting higher standards for the Company's products and solutions.</li> <li><b>Resource Supply Chain Risks:</b> Dependencies on scarce or limited resources may be vulnerable to climate change effects, such as unstable energy supplies or restricted raw material availability.</li> </ul>	<ul style="list-style-type: none"> <li>Commit to reducing carbon emissions and environmental impacts by adopting renewable energy sources, improving energy efficiency, and optimizing product designs to reduce the Company's environmental footprint.</li> </ul>
Climate Opportunities	<ul style="list-style-type: none"> <li><b>Emerging Market Demands:</b> With the growing significance of low-carbon and sustainable development, the Company may offer innovative integrated solutions for emerging markets in clean energy, smart transportation, and green agriculture.</li> <li><b>Technology Innovation Drive:</b> Addressing climate change demands technological innovation. The Company can leverage its R&amp;D and collaborations to foster breakthroughs in sustainable technologies, thereby seizing market opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>Capitalize on green, low-carbon opportunities by leveraging its strong R&amp;D foundation and technical prowess in industrial automation, continuously expanding its green product portfolio, providing innovative solutions for industries transitioning to low-carbon operations, and reducing downstream carbon emissions in the value chain.</li> </ul>



## Full Lifecycle Green Design

The Company embraces the principles of green and circular design from the initial stages of product design through to final disposal, consistently developing innovative energy-saving products and solutions. These initiatives provide efficient and reliable integrated solutions and services that minimize the environmental impacts of products and equipment throughout their entire lifecycle.

### Product Design

- We adopt a modular design approach, combining different functional modules to fulfill the diverse robotic needs of various application scenarios. This strategy improves the products' maintainability, disassembly, expandability, and reusability.
- We focus on designing smaller-scale products that simplify structure while maintaining essential performance, reducing both the size and number of mechanical parts. For example, the dual-axis linear and rotary motors are 25% smaller in volume than two single-axis units; the Series 5 ED5E drive achieves approximately 10% greater power density (400W), allows for installations as close as 1mm apart, and conserves installation space for customers.

### Raw Material Use

- We choose materials that are recyclable, biodegradable, or renewable to lessen the environmental impact of our products.
- We avoid using toxic or hazardous materials to ensure product safety and environmental sustainability. Adhering to RoHS standards, our design and material selection process follows principles of prohibition, restriction, and labeling. Substances such as lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, and polybrominated diphenyl ethers are strictly banned. We rigorously monitor material compositions and require suppliers to provide compliance certifications and traceability reports to ensure full compliance.

### Manufacturing

- We employ green manufacturing technologies, including 3D printing, to decrease waste and energy consumption during production.
- We promote clean production, optimizing manufacturing processes and improving production efficiency.
- We advance the adoption of clean energy sources, such as solar power.

\*For additional information, please refer to the sections on Low-Carbon Production Operations, Utilizing Water Resources Efficiently, and Strengthening Emission Controls in this report.

### Transport and Distribution

- We advocate for environmentally friendly packaging practices. Essential components for robot production, such as castings, motors, and drives, are packaged in reusable containers and pallets. Some products are packaged in recyclable boxes to promote the reuse of packaging materials.
- Products are designed to be lighter, which enhances transportation efficiency and reduces energy consumption during transit.
- We choose low-carbon transportation options, including electric or solar-powered vehicles, to minimize carbon emissions during transit.

### Usage

- We develop green, energy-saving, and efficient products and solutions. Energy-efficient hydraulic products have been designed specifically for bending machine applications, helping customers conserve more energy and reduce environmental waste.
- We employ cutting-edge energy-saving technologies, such as the use of a common DC bus across all third-generation robot cabinets; motors meet the highest energy efficiency standards, aiding customers in achieving green energy savings.
- We enhance the reliability and durability of our machinery products, thus lowering the rate of product scrappage.

### End-of-Life

- Products are designed for easy recycling and disassembly to minimize resource consumption and waste generation.
- During the mechanical manufacturing and automation design processes, We consider the pollution treatment costs related to part scrappage and actively select materials that minimize environmental load and overall costs, such as avoiding materials that contain chlorinated rubber freon, asbestos, and certain resins.





## Low-Carbon Production Operations

Under the "dual carbon" objectives, Estun is vigorously advancing its management of energy consumption and efficiency in compliance with the *Law of the People's Republic of China on Promoting Clean Production* and the *Law of the People's Republic of China on Energy Conservation*, among other regulations. The Company is increasing its investments in clean energy infrastructure and energy-saving technological upgrades, encouraging employees to follow clean production management processes. Through process improvement and innovation, we aim to reduce energy loss, enhance energy utilization efficiency, and decrease greenhouse gas (GHG) emissions, thereby leading the green transformation and upgrade.

### Energy Consumption and GHG Emissions Management

The Company consistently enhances the monitoring and reporting of energy usage and GHG emissions data, providing a basis for further energy conservation and emission reduction initiatives. Estun's direct carbon emissions (Scope 1) mainly originate from fixed emission sources such as diesel generators and natural gas, mobile emission sources like company vehicles, and other auxiliary production facilities. Indirect carbon emissions (Scope 2) are largely due to outsourced electricity. Analysis indicates that indirect emissions constitute over 90% of total emissions (Scope 1 and Scope 2). Consequently, our carbon reduction efforts are primarily targeted at Scope 2 emissions related to outsourced electricity. Additionally, we are committed to collaborating with suppliers to establish a low-carbon value chain.

	Indicator	Unit	2022	2023
Energy Consumption	Natural gas	cubic meters	416,610.84	392,466.02
	Gasoline	tons	25.45	18.69
	Diesel	tons	30.97	26.90
	Outsourced electricity	kilowatt hours	12,241,000	16,168,600
	Self-built photovoltaic power generation	kilowatt hours	1,388,400	1,481,300
	Total comprehensive energy consumption <sup>1</sup>	tons of standard coal	2,141.05	2,575.80
	Comprehensive energy consumption intensity	tons of standard coal per RMB 1 million of revenue	0.55	0.55
GHG Emissions <sup>2</sup>	Direct GHG emissions (Scope 1)	tons of CO <sub>2</sub> equivalent	875.33	842.00
	Indirect GHG emissions (Scope 2)	tons of CO <sub>2</sub> equivalent	7,712.43	8,721.85
	Total GHG emissions	tons of CO <sub>2</sub> equivalent	8,587.76	9,563.85
	GHG emission intensity	tons of CO <sub>2</sub> equivalent per RMB 1 million of revenue	2.21	2.06

Note: <sup>1</sup> Total Comprehensive Energy Consumption: Calculated according to the State Administration for Market Regulation and the Standardization Administration's GB/T 2589-2020 *General Rules for Calculation of Comprehensive Energy Consumption*, expressed in units of standard coal.

<sup>2</sup> GHG Emissions: Exclusively refer to carbon dioxide emissions, not including other GHGs such as methane and nitrous oxide. Scope 1 GHG emissions include emissions from the combustion of fossil fuels such as diesel, gasoline, and natural gas, as well as from industrial production processes. The emission factors for Scope 1 are derived from the guidelines issued by the National Development and Reform Commission: *Guidelines for Accounting and Reporting GHG Emissions for Machinery Manufacturing Enterprises (Trial)* and *Guidelines for Reporting Environmental Key Performance Indicators*. Scope 2 emissions cover those from outsourced electricity; the emission factors for 2023 power in China are taken from the Ministry of Ecology and Environment's Circular [2023] No. 43 *Notice on GHG Emission Reporting Management for the Power Generation Sector 2023-2025*; for 2022, they are based on the National Development and Reform Commission's *2011 and 2012 Baseline Emission Factors for Regional Power Grids in China*. For international operations, emission calculations follow *GHG Reporting and Power Sector Carbon Intensity in Germany 2000-2021*.

### Case Electric Bending Machines Driving Green Transformation of Industrial Production

As China's sheet metal processing market continues to grow, bending machines—essential for the crucial bending process—are increasingly utilized. However, traditional hydraulic bending machines suffer from issues such as energy wastage, environmental pollution from hydraulic oils, significant noise pollution, and complex maintenance, all of which hinder the sustainable development of the bending machine industry. As pioneers and innovators in the sheet metal industry, in 2023, we launched an innovative solution with our electric bending machines. These machines are designed for energy efficiency and adhere to green, low-carbon standards, replacing traditional electro-hydraulic controls. This advancement significantly enhances performance, energy efficiency, precision, and maintainability, driving the green transformation of industrial production.



**Improved Energy Efficiency**

By utilizing our proprietary servo control system and advanced motor control technology, we execute actions more flexibly and efficiently, precisely matching load demands. This approach significantly enhances production efficiency and avoids the energy wastage seen in traditional hydraulic systems. For instance, a 100-ton electric servo press brake consumes only about 12 kWh per day based on 8 hours of operation, compared to around 60 kWh per day for a hydraulic press brake, resulting in an energy saving of approximately 80%.

**Reduced Emission**

By eliminating traditional hydraulic systems, we remove the need for regular maintenance of hydraulic lines and the replacement of hydraulic oil, thereby reducing the generation of harmful waste such as mineral oils.

**Higher Precision**

Equipped with the company's latest CNC system, our machines achieve repeat positioning accuracy of up to 0.01mm, allowing for more precise processing and a reduced rate of defective products.

**Lower Noise Levels**

Our machines generate less noise, meet environmental standards for noise pollution, and significantly improve workplace comfort.

### Case Comprehensive Application of Common DC Bus Technology in Robotics

Robot movement involves the acceleration and deceleration of motors at various robotic joints, where energy is converted from electrical to kinetic during acceleration, and vice versa during deceleration. We optimize energy savings by leveraging the unique motion characteristics of each robotic joint. By incorporating servo common DC bus technology in our robots, when a robotic joint motor decelerates, the kinetic energy generated is converted back into electrical energy and fed into the servo's common bus. This energy is then available for use by other motors during acceleration and for powering switching supplies, thereby enhancing energy efficiency. By the end of 2023, we have implemented common DC bus technology across all third-generation robot cabinets.

#### Energy Saving Profile

In 2023, the third-generation cabinet of Estun robots achieved an energy saving of

**21.9** million kilowatt-hours,

which corresponds to a reduction of

**12,489.57** tons

of carbon dioxide emissions.

The annual energy savings were calculated by comparing the energy consumption of the third-generation Estun robot cabinets equipped with shared DC bus technology to that of robot cabinets without this technology, based on the shipping volume of the third-generation cabinets in 2023.

Annual Energy Savings (kWh) = A \* B \* C \* T \* 365 days

A: Energy saving rate per cabinet with shared DC bus technology

B: Average power consumption per cabinet

C: Number of cabinets shipped in 2023

T: Average daily operating time at the customer's site



### Carbon Reduction Initiatives

Electricity consumption during production and R&D processes is one of the principal sources of GHG emissions at Estun. Consequently, the Company is dedicated to enhancing its overall energy management, implementing technological upgrades and innovations, and actively exploring renewable energy applications.



Energy saving target:

By 2024, achieve a **10%** year-on-year reduction in comprehensive energy consumption per unit product for robots.



#### Clean Energy Replacement

- Estun is expanding its use of renewable energy with plans to install approximately 5 megawatts of rooftop distributed photovoltaic power generation projects across three factory areas in Jiangning, projected to generate 5 million kilowatt-hours annually. By the end of 2023, 2.5937 megawatts of this rooftop distributed photovoltaic generation capacity had been installed, producing 1,481,300 kilowatt-hours in 2023, equivalent to reducing CO<sub>2</sub> emissions by 844.79 tons.



#### Energy Efficiency Management Optimization

- Estun has implemented multiple energy management policies, including the *Energy Management System*, *Energy Management Manual*, and *Energy Management System Procedure Document*. Specific energy-saving measures have been outlined in the *Energy Management Implementation Plan*.
- To ensure the effective operation of the ISO 50001 Energy Management System, the Company has established an internal auditor system with ten ISO 50001 certified auditors. These auditors participate in the annual internal audits of the energy management system, prepare *Internal Audit Checklists*, and conduct detailed audits. They assess the suitability, adequacy, and effectiveness of the energy management system, identify non-conformities, suggest improvements, and assist with corrective and preventive measures. They also track the completion and effectiveness of these measures, report audit results to management, and provide recommendations for optimizing and continually improving the energy management system.
- In 2023, Estun achieved its initial certification of the ISO 50001 system. Through ongoing operation of this system, we aim to consistently improve our energy management practices and fulfill our goals for sustainable development.



#### Energy-saving Technological Upgrades

- In 2023, Estun invested in an automated final assembly production line that uses robots to assemble other robots. This line features an integrated MES system that automates changes in materials and tooling, enhancing the precision and efficiency of the assembly process. This upgrade saves approximately 30,000 kilowatt-hours per year and reduces the energy consumption per unit of output by about 3.684 tons of standard coal annually.
- Estun has developed a strategy to phase out and replace outdated electromechanical products, promoting the use of energy-efficient new products and prohibiting the selection of phased-out items. The Company designs power supply systems according to the technical requirements of different electrical devices to improve equipment energy efficiency. This includes using AC variable frequency drives to automatically adjust motor speeds and reduce idle power consumption, and applying the Company's patented technologies and processes to boost productivity and efficiency, thereby lowering overall energy consumption. Through these process improvements, an estimated 2,100 kilowatt-hours are saved monthly.
- The production facilities utilize energy-efficient lighting and green lighting systems, achieving a savings of approximately 120 kilowatt-hours per month. Enhanced energy management controls for air conditioning, with each unit utilizing an energy management card, set temperatures at 26°C in summer and 22°C in winter, yielding an expected summer energy saving of 1,500 kilowatt-hours.

### Case

#### Achieving ISO 50001 Energy Management System Certification

The energy management system is an essential tool for enhancing energy efficiency. We have proactively established an energy management system, developed energy management policies, and created standard operating procedures (SOPs) for our energy management facilities to efficiently drive various energy-saving initiatives forward. Additionally, we have organized energy measurements and analyses of energy flows, set energy management goals, devised emission reduction plans, and regularly monitored energy performance. We also conduct energy reviews, strictly control production energy consumption, and have achieved certification through the ISO 50001 Energy Management System.

As the Company's energy management efforts have become more refined, we realized significant energy-saving benefits in 2023. For instance, comparing our robotic products with the baseline year of 2022, the energy consumption per unit product decreased from 29.97 kg of standard coal per unit in 2022 to 28.69 kg of standard coal per unit in 2023. The clean energy usage rate reached 30%, effectively reducing CO<sub>2</sub> emissions by approximately 447.2 tons. Looking ahead, we plan to develop an energy management platform to facilitate online monitoring and management of energy data, constantly improving our level of energy management.



## Utilizing Water Resources Efficiently

Estun's business operations are minimally dependent on water resources, primarily utilizing industrial cooling water, water for washing and cleaning, and domestic water during R&D and production processes. Nevertheless, protecting water resources is a responsibility incumbent upon every corporate citizen. We strictly adhere to laws and regulations such as the *Water Law of the People's Republic of China*, reasonably restricting water usage through policies and procedures, and improving equipment processes. By continually raising staff awareness about water conservation, we ensure the sustainable use of water resources. We source the water used in our production and operations from municipal tap water, eliminating any risks associated with water sourcing and use.

Total water intake  
**177,681** tons

Water intake intensity  
**0.38** tons per RMB  
10,000 of revenue



Water Conservation

During project construction and operation, we choose water-saving facilities and devices or reduce water consumption through technological optimization and upgrades. We promptly address leak issues to prevent additional wastage of water resources.



Rainwater Reuse

We have established rainwater reuse and greywater systems to utilize clean rainwater and treated greywater for tasks such as road cleaning, landscaping, and flushing toilets. In 2023, the Company's second-phase project added two rainwater collection ponds, using collected rainwater for irrigating garden landscapes.



Water Recycling

We actively promote water recycling technologies in our projects to maximize the reuse of water resources. In 2023, our machining workshop implemented a "pass-through high-pressure spray cleaning machine" that reuses cleaning water multiple times, saving one-third of the water typically used compared to traditional cleaning methods, thereby reducing water waste. Additionally, we recycle and reuse cutting fluids in the workshop; in 2023, we purchased scrap metal compactor equipment to compress metal shavings soaked with cutting fluids before filtering and reusing the cutting fluids, thereby minimizing water consumption.



# Strengthening Emission Controls

Estun strictly adheres to a variety of legal and regulatory frameworks, including the *Law of the People's Republic of China on Environmental Protection*, *Law of the People's Republic of China on Environmental Impact Assessment*, *Law of the People's Republic of China on Water Pollution Prevention and Control*, and *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste*. These regulations guide our effective control of waste emissions. For wastewater, exhaust gases, factory boundary noise, and solid waste generated during production and operational processes, the Company has established comprehensive internal management systems such as the *Environmental Protection Management System*. These systems ensure the normal operation of environmental protection facilities, compliance with standards for wastewater and exhaust gas emissions, acceptable levels of factory noise, and the lawful disposal of solid waste. In 2023, there were no incidents of environmental penalties related to pollution or unauthorized discharges.

Moreover, the Company has implemented a "three waste" (i.e., wastewater, exhaust gases, and solid waste) monitoring system to continually monitor the treatment and discharge of waste, and regularly contracts third-party agencies to conduct professional evaluations of waste emissions. This practice helps to continuously optimize emission performance and minimize the negative impact of waste emissions. For the painting exhaust gases in the manufacturing areas, we introduced non-methane total hydrocarbon online monitoring at the exhaust outlets in 2023 to monitor emission concentrations in real time.

## Emission and Waste Management Requirements and Disposal Methods

### Exhaust Gases

- **Type of Emission:** Volatile organic compounds (VOCs), particulate matter
- **Pollution Control Facilities:** Coarse adsorption cotton, activated carbon adsorption units, water whirl paint mist filter devices
- **Disposal Method:** Treated by exhaust gas facilities and discharged at standard levels through a 15-meter high stack

### Wastewater

- **Type of Emission:** Suspended solids, chemical oxygen demand (COD), ammonia nitrogen, etc.
- **Pollution Control Facilities:** Wastewater treatment equipment (oil separation emulsion breaking + coagulation sedimentation + A/O + MBR), septic tanks
- **Disposal Method:** Domestic sewage is effectively treated and compliantly discharged after centralized municipal treatment; industrial wastewater such as from water separators handled by qualified third-party units

### General Industrial Solid Waste

- **Type of Emission:** Waste plastics, scrap steel and iron, toner cartridges, waste copper, waste aluminum, waste packaging, etc.
- **Pollution Control Facilities:** Storage areas for general industrial solid waste
- **Disposal Method:** Collected by category and processed or recycled by downstream suppliers

### Hazardous Solid Waste

- **Type of Emission:** Waste cleaning solutions, waste resin, waste packaging barrels, waste circuit boards, waste paint sludge, waste activated carbon, waste kerosene, sludge, waste adsorption cotton, etc.
- **Pollution Control Facilities:** Hazardous waste storage areas
- **Disposal Method:** Uniformly collected and stored, then recycled or disposed of by qualified management facilities

## Case Comprehensive Replacement of Dichloromethane

Aligned with the *Key Controlled Pollutants List (2023 Version)*, the Company identified environmental risks associated with the use of dichloromethane as a cleaning agent in the servo motor potting process. This led to an immediate search for alternative cleaning agents, culminating in the adoption of Wuxi K-renown's HL8127 cleaning agent. The main component of HL8127 is decane, which is not classified as a severely environmentally hazardous substance under the *Key Controlled Pollutants List*. After six months of rigorous testing, the complete replacement of dichloromethane was finalized in November 2023.

## Case

### Selected as a Typical Case of Clean Production in Nanjing for Source Reduction

Given the diverse applications of the Company's servo systems, which require the application of conformal coating on circuit board surfaces to ensure moisture, corrosion, and dust resistance and to extend the lifespan of the electronics, the high VOCs content of these coatings posed significant environmental risks. Faced with the challenge of finding substitute materials in the electronic assembly industry's conformal coatings, Estun undertook production trials to find a lower-VOCs content solution. A UV conformal coating with a VOCs content of 38mg/L was selected to replace the original coating with 488mg/L. Additionally, the existing curing oven was replaced with a UV curing oven utilizing a mercury-free lamp. Following implementation, conformal coating usage was reduced by 30%, and the emission of organic exhaust gases decreased by 0.0417 tons/year. In July 2023, this initiative was honored by the Nanjing Municipal Bureau of Ecology and Environment as an exemplary case of clean production.



Before upgrade



After upgrade

## Emission Indicators

Indicator		Unit	2022	2023
Wastewater Discharge	Chemical oxygen demand (COD)	tons	6.84	7.20
	Ammonia nitrogen	tons	1.24	0.91
	Suspended solids (SS)	tons	3.81	2.85
	Total phosphorus	tons	--	0.08
	Total nitrogen	tons	--	0.93
	Animal and vegetable oils	tons	--	1.23
Exhaust Gas Emissions	Total exhaust gas volume	10,000 cubic meters	29,463.20	26,013.71
	Exhaust gas emission intensity	10,000 cubic meters/RMB 1 million revenue	7.59	5.59
	Non-methane total hydrocarbons	kilograms	--	347.56
	Particulate matter (PM)	kilograms	270	405
Solid Waste Discharge	Hazardous waste generation	tons	85.38	97.44
	Hazardous waste recycling rate	%	2	5
	General waste generation	tons	2,597.28	2,217
	General waste recycling rate	%	42	45



# Sharing: Improving Life Quality

Estun adheres to a development philosophy centered on shared growth. We deeply care for employees and support them in achieving their personal goals. We also actively participate in rural revitalization to demonstrate corporate responsibility, and engage in charitable and social welfare activities to transform the dividends of corporate development into greater societal welfare, creating comprehensive value for stakeholders and forging a new chapter for improved life in the new era.

### Contributing to UN SDGs





# Growing Together with Employees

Estun is committed to a "people-oriented, respect for talent" philosophy. We prioritize production safety, uphold employees' legal rights and interests, and foster opportunities for their growth. By blending humanistic care with career development, we inspire employees to unleash their creativity and value creation. Together with our employees, we strive for mutual growth and collective success.

## Creating a Diverse and Inclusive Workplace

Estun is dedicated to creating a workplace that is diverse, inclusive, and open, welcoming talent from various backgrounds. Through mutual respect, understanding, communication, and acceptance, we aim to enhance cooperation and cultivate a diverse workforce, thereby continually improving workplace inclusiveness and diversity.

Total number of employees  
**3,851**

### Strengthening Talent Attraction



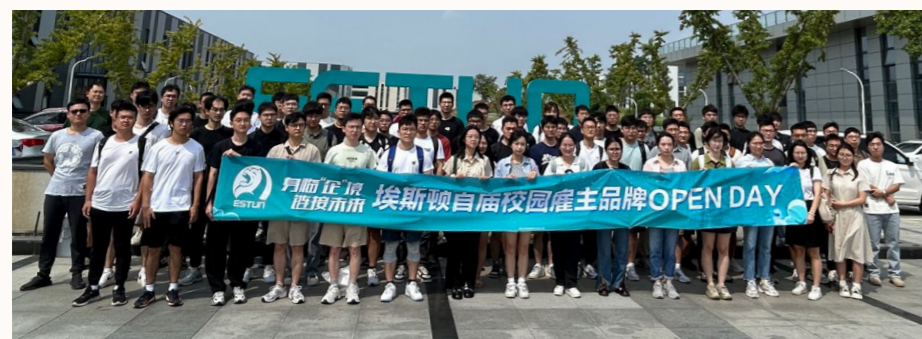
#### Ensuring Fundamental Rights

Estun strictly adheres to the *Labor Law of the People's Republic of China*, *Company Law of the People's Republic of China*, *Trade Union Law of the People's Republic of China*, and other pertinent laws and regulations. We support and respect the *United Nations' International Bill of Human Rights*, the *International Labour Organization's Declaration on Fundamental Principles and Rights at Work*, and other applicable international principles. We have developed a rational *Employee Handbook* to prevent discrimination based on age, gender, ethnicity, nationality, religion, or other factors in hiring, promotion, or compensation practices. We firmly prohibit any form of forced or child labor.



#### Emphasizing Talent Attraction and Retention

Estun has implemented comprehensive recruitment management systems, including the *Recruitment and Allocation Management System*, *Personnel Management System*, and *Probation Management System*, to ensure institutional support for talent acquisition and retention. Estun continually evaluates our compensation competitiveness and employer brand against market trends to offer competitive salaries. We regularly introduce long-term incentives such as equity incentives and employee stock ownership plans to attract and retain talent. For instance, we launched the "Estun First Campus Employer Brand Event and 2024 Campus Recruitment Kickoff Ceremony" to attract high-quality talent for the Company's growth, achieving significant breakthroughs in recruiting R&D professionals, with graduates from "Double First-Class" universities making up 90% of new hires.



Estun First Campus Employer Brand Event and 2024 Campus Recruitment Kickoff Ceremony

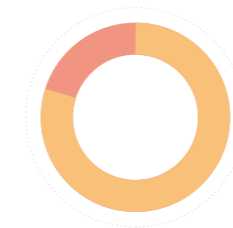
Employee labor contract signing rate:  
**100%**

Social insurance coverage rate:  
**100%**

New hires during the reporting period:  
**257**

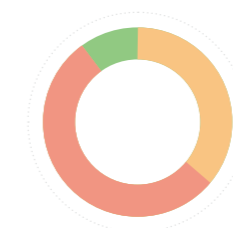
New graduate recruits:  
**173**

### Diverse Workforce Structure



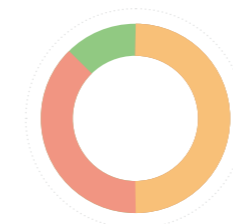
Gender Structure of Chinese Employees

- Chinese male employees 80.38%
- Chinese female employees 19.62%



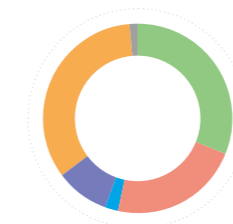
Age Structure

- Employees aged 30 and under 36.02%
- Employees aged 31-50 54.16%
- Employees aged 51 and above 9.82%



Academic Structure

- Employees with associate degree or below 50.04%
- Employees with bachelor's degree 37.70%
- Employees with graduate/MBA degree or above 12.26%



Professional Structure

- Production staff 33.91%
- Sales staff 22.41%
- Technical staff 31.19%
- Finance staff 2.16%
- Administrative staff 9.06%
- Others 1.27%

### Promoting Diversity and Inclusion

Estun is dedicated to cultivating an open organizational culture and offers a diverse array of employee benefits to enhance diversity and inclusiveness. The Company's *Employee Handbook* and *Compensation System Handbook* specify that eligible female employees are entitled to benefits including prenatal check-up leave, maternity leave, breastfeeding leave, International Women's Day leave, and paid parental leave. Additionally, breastfeeding leave post-maternity can be flexibly accrued within the month to ensure proper implementation of women's benefits.

### Strengthening Democratic Management

Estun has instituted the *Estun Workers' Congress Management Measures*, with the workers' congress serving as the primary mechanism to ensure employees fully enjoy rights to information, participation, and oversight. This facilitates an environment conducive to employees providing valuable feedback and suggestions. In 2023, the Company convened two workers' congresses to deliberate and vote on matters including replenishment of employee representatives, updates to the compensation system, performance evaluation, employee handbook, and the production safety management system. Elections were also held for employee representatives in the fifth term of the Company's Board of Supervisors. The results of these democratic processes are made public to fully safeguard employees' democratic rights.

Employee turnover rate:  
**19%**

male:  
**16%**

female:  
**3%**



The proportion of female employees in middle and senior management:

**18.91%**

Percentage of Minority Employees:

**0.9%**

Union membership rate among employees in 2023:

**96.2%**



## Cultivating a Hub for Talent

Estun intensifies its commitment to talent development and motivation through the establishment of Estun Academy, which aims to empower employees internally and bolster the industry ecosystem externally. The academy constantly improves training methodologies and develops training resources while ensuring clear channels for career advancement. This enables employees to more effectively utilize their skills, unlock their potential, and unleash their vitality, fostering a synergy between personal achievement and corporate growth.

### Enhancing Employee Capabilities

#### Tiered and Categorized Training

Tailored to the unique characteristics and requirements of different stages in employees' careers, Estun offers specialized training programs including "New Employee Training for Experienced Hires," "Fresh Graduate Training," and "Cadre Capability Training."

#### ○ New Employee Training for Experienced Hires

This training encompasses exhibition hall tours, in-depth presentations on corporate culture, HR, finance, and administrative management systems and processes, along with safety and occupational health education. These sessions are designed to help new hires rapidly acclimate to and comprehend the workings of Estun.

Sessions held:

11

#### ○ Fresh Graduate Training (Seedling to Forest Project)

This initiative provides introductions to Estun, encompassing aspects of corporate culture, HR, finance, administrative systems, and office software management processes. It includes instruction on product lines, industry applications, self-awareness, and career development, complemented by safety and occupational health training. Additional activities like debates, presentation roadshows, and outdoor team-building exercises help graduates transition smoothly from academia to the professional world and integrate effectively into the corporate environment.

Sessions held:

3

Number of attendees:

228

#### ○ Cadre Capability Training

**Middle and Grass-roots Management Leadership Training Camp:** This training combines nine core skills and thirty-eight scenarios to develop tailored programs, with courses like *Excellence in Management - Takeoff & Leadership* already delivered online. Future plans include creating a series of courses aligned with actual business scenarios, specifically targeting the enhancement of business capabilities for middle and grass-roots management staff.

Sessions held:

337

**Middle and Senior Management Leadership Training:** This training features courses such as *Financial Management from a Business Perspective*, *Upgrading Project Management Philosophy and Practical Exercises*, *Human Resources Management Awareness*, and *Strategic Awareness and Capability Enhancement*, all aimed at elevating the leadership capabilities of middle and senior management.

Sessions held:

4

Number of attendees:

over 70

### Professional Skills Training

To meet the diverse and personalized training needs across various product lines and departments, including professional knowledge and skills, English language proficiency, and internal trainer capabilities, we offer a range of specialized courses. These include the Super Engineer Project, Frontline Team Leader Reservoir Project, Estun Light Plan, Business English, and First Aid Training.



Business English training program

### Case Implementing Internal Trainer Selection, Development, and Certification to Fully Utilize Talent Capabilities

In 2023, Estun introduced the second season of the "Estun Light—Internal Trainer Development Program," accessible to all employees. This comprehensive program covers topic selection, development, recording sessions, trial lectures, and certification, systematically enhancing the course design and delivery skills of internal trainers. Furthermore, Estun Academy enlisted deans and instructors from the AACTP Association to teach "Topic Analysis Canvas" and the "Four Elements and Eight Steps Teaching Method," practical tools for course development that improve instructors' teaching abilities and contribute to forming a professional internal training team.

After evaluation and certification by the review panel, 45 employees were designated as "Junior Training Instructors." By the end of 2023, the Company had established a cadre of 76 internal trainers. In line with the Estun Instructor Management Measures, we conducted the first "Popular Instructor" election, where six instructors were chosen based on their popularity. This recognition not only motivates broader employee involvement but also uses business needs and practical experience to provide higher-quality training to more staff.

**Advanced Study Class:** This class arranges offline training on topics including *General Manager Role Transition*, *Major Account Development*, and *Transitioning to Solution-Based Sales*, supplemented by group readings to foster a deeper understanding and application of management theories and practices.

Sessions held:

1

Number of attendees:

33

**Integrated Supply Chain Cadre Training Program:** This program offers courses like *Human Resource Management for Non-HR Managers*, *Financial Management for Non-Financial Managers*, and *Project Management for Non-Professional Project Managers*.

Sessions held:

9

Number of attendees:

27



Training scene for fresh graduates (Seedling to Forest Project)

### Online Training Expansion

We have developed the "Estun Academy Online" digital learning platform, integrating high-quality internal and external courses to ensure that "any organization and individual, at any time, and from any place" can access necessary learning resources. By the end of 2023, "Estun Academy Online" had launched 830 training programs, reaching 2,273 employees.

Total number of online training attendees:

**33,987**

Total hours of online training:

**81,736** hours

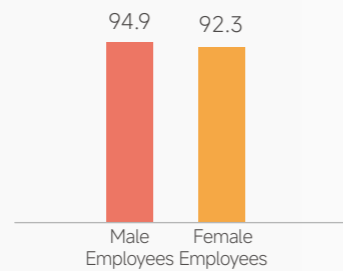
Average online training duration per attendee:

**35.9** hours

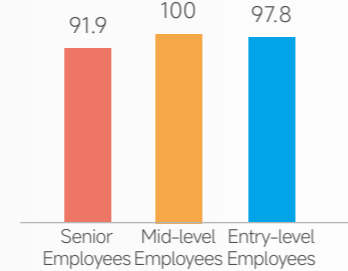
Online Training Coverage Rate:

**94.4** %

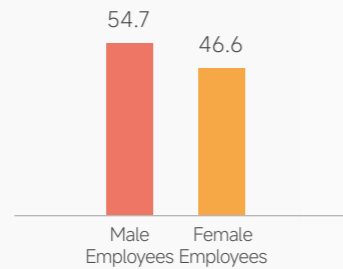
Online Training Coverage Rate by Gender (%)



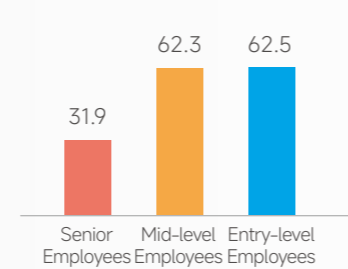
Online Training Coverage Rate by Level (%)



Average Online Training Duration by Gender (Hours)



Average Online Training Duration by Level (Hours)



### External Professional Certification

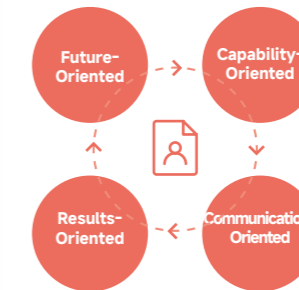
We have formulated and published the *Estun External Professional Title Management Measures*, specifying that R&D and technical staff who apply for and achieve mid-to-senior-level technical titles will have their registration fees reimbursed by the Company. Moreover, the Company leverages employee professional titles for government project applications, awarding bonuses to those whose certificates are utilized in successful project proposals.

### Streamlining Career Pathways

#### Dual Career Tracks

We have implemented the *Job Ranking Management System* to formalize career development pathways for employees, introducing both a management track (M series) and a professional track (P series). The professional track features the super engineer skills competitions, an innovative platform that dismantles traditional barriers in technical roles and urges engineers to acquire diverse skills, thus elevating both technical and service standards. This system offers flexible horizontal and vertical development opportunities, enabling employees to transition between tracks according to their personal ambitions and skills, which in turn stimulates their enthusiasm for innovation.

We are constructing a forward-thinking promotion system that opens up extensive development opportunities for employees.



We focus on developing lifelong career skills and crafting tailored career paths for employees with various skill sets.

We aim to motivate employees to consistently achieve high performance and continual development.

We promote active dialogue between employees and their managers, who act as career mentors.

#### Cadre Development

We have established the *Cadre Selection and Appointment Management Regulations* to regulate the selection and appointment of cadres, enhance the inspection and training systems for cadre teams, and ensure their sustained healthy growth.

#### Motivating Employees to Excel

Estun commits to a comprehensive "five-in-one" incentive model, incorporating fixed salaries, subsidies, incentives (including special, immediate, and annual honor incentives), annual bonuses, and stock options, all designed to support mutual growth and development with our employees.

#### Competitive Compensation

Following principles of "overall planning and categorized management," we have developed the *Compensation Management Handbook*. This approach targets different job categories with bespoke management and incentive schemes. Moreover, our broadband salary structure and performance-based bonuses are crafted to reflect the value of different positions and the abilities of incumbents, thereby enhancing our salary competitiveness in the market and encouraging employees to innovate and excel.

#### For Key Talent

We apply incentive-based strategies characterized by a low fixed-income ratio and a high variable-income ratio, with considerable flexibility in performance coefficients, mirroring a high-risk, high-reward environment.

#### For Entry-Level Staff

We adopt protective strategies that ensure a high fixed-income ratio and a low variable-income ratio, with limited performance coefficient flexibility, providing a stable income structure.



#### Comprehensive Benefits

We provide a wide range of benefits including labor protection, complimentary workday lunches, health check-ups, compassion funds, celebrations for birthdays and other employee events, as well as allowances for transportation, communication, and special positions.



## Safeguarding Health and Safety

Employee health and safety are crucial for the sustainable development of the corporation. Estun strictly adheres to relevant laws and regulations, such as the *Production Safety Law of the People's Republic of China* and the *Occupational Disease Prevention and Control Law of the People's Republic of China*. We are committed to continually enhancing our management mechanisms related to occupational health and safety, conducting comprehensive safety training, and fostering a secure and harmonious work environment to ensure the well-being of our employees.

### Enhancing Management Mechanisms

A Production Safety Committee has been established to manage and oversee all aspects of production safety and occupational health. At the start of each year, the Company sets specific production safety objectives, which are closely monitored and evaluated to ensure adherence. Furthermore, we implement annual safety and environmental responsibility agreements with each department, incorporating these into their performance evaluations. High-level executives sign safety and environmental protection agreements, and a portion of their salaries is dedicated to a safety and environmental incentive fund, consistently elevating our safety management standards.



Achieved **ISO 45001 Occupational Health and Safety Management System Certification**  
Achieved **Level Three Safety Standardization System Certification**

### Refining Management Systems

We have developed and implemented 21 comprehensive safety management systems, including the *Production Safety Responsibility System*, *Special Equipment Safety Management Regulations*, *Hazardous Chemicals Safety Management Regulations*, *Hidden Danger Inspection and Management Regulations*, and *Emergency Preparedness and Response Control Procedures*. These systems are applicable to all employees and encompass all company operations.



Investment in  
production safety:

RMB **6.66** million

Major production  
safety incidents:

**0**

Work-related fatalities:

**0**

New cases of  
occupational diseases:

**0** %

Occupational injury rate  
per thousand employees:

**1.3** %

Days lost due to  
work-related injuries:

**108**

Certification rate for  
special operation  
personnel:

**100** %

### Conducting Safety Actions

- ✓ **Special Initiatives:** We organize monthly production safety meetings, conduct regular and monthly safety inspections, perform specialized safety inspections on hazardous operations, and ensure compliance with personal protective equipment standards to solidify our safety defenses.
- ✓ **Hazard Identification and Risk Assessment:** Our routine hazard identification processes identified 268 safety risks in 2023, followed by thorough risk assessments to establish risk levels and implement appropriate risk control measures.
- ✓ **Emergency Management:** Customized to our production characteristics and focused on major risks, key hazards, and critical control points, we conduct drills for electrical safety, vehicle injuries, and emergency evacuations to improve employees' disaster avoidance, self-rescue, mutual aid, and emergency response skills.

Drills for comprehensive  
emergencies and  
emergency response  
plans:

**9**

covering

**720** attendees



Carrying out safety inspection



Conducting emergency drills

### Raising Safety Awareness

We promote safety awareness through a combination of online and offline safety education and training initiatives. These include hosting the inaugural Safety Knowledge Competition, Safety "Consultation Day" promotional activities, Red Cross emergency first aid training, and campaigns on National Traffic Safety Day, Production Safety Month, Occupational Disease Prevention Week, and National Safety Firefighting Day. Throughout the year, a total of 38 safety education and training sessions were organized, including 26 sessions specifically for new employee safety training with an attendance of 1,594. Additionally, there were 12 specialized training sessions with a total attendance of 7,200.



Emergency first aid training



Safety knowledge competition

## Boosting Employee Well-being

At Estun, we consistently prioritize employees' welfare by organizing a diverse array of cultural and sports activities, promoting a balance between work and family life, and offering dedicated support to employees in need, thus enhancing their sense of achievement, belonging, and happiness.

### Enhancing Employee Cohesion

Aligned with the Company's strategic focus and business system, we have reevaluated our mission, vision, and values, culminating in the release of the *Estun Culture White Paper V3.0*. Our corporate values now emphasize openness, innovation, striving, and growing together. These values are communicated through our corporate newsletter to strengthen employees' connection with the Company.

### Emphasizing Humanistic Care

We have established the Estun Love Fund and developed the *Estun Love Fund Management Measures*. Based on principles of autonomy and voluntarism, this fund provides support to employees facing serious illnesses or accidental injuries, significantly alleviating the immediate burdens on their families. By the end of 2023, we had launched 14 fundraising campaigns, raising RMB 470,000 and disbursing RMB 95,000.

We routinely conduct comforting activities such as winter warmth, summer cool-down, and regular care visits. In 2023, Estun's frontline employee care initiatives were extended to project sites in Xuzhou, Zhengzhou, Sanmenxia, Taiyuan, and Yibin, delivering essential support through cooling care packages and team-building activities.



Cooling care at the Yangzhou intelligent manufacturing project site

### Balancing Work and Life



Employee birthday celebrations



Enjoyable park event on 1024 Programmer's Day

# Prospering Together with Society

Estun actively responds to national initiatives for agricultural support and rural revitalization, focusing on the needs of societal development. We constantly search for opportunities for joint development with society, aiming to enhance public welfare and act as advocates and implementers of social progress and urban development on the journey toward an improved quality of life.

## Supporting Rural Revitalization

Our primary strategy involves consumer assistance. We actively collaborate with Lijiayuan Village in Qilicun Township, Yanchang County, Yan'an City, by purchasing local agricultural products to help farmers access new markets, thus augmenting the income of the local community.

Total expenditures for consumer assistance initiatives:

RMB  
**352,800**



We appreciate the Company's assistance in addressing urgent issues, improving the lives of our people, and making substantial purchases of locally grown fruits, which have significantly relieved pressing needs and increased our farmers' incomes, bringing them hope.



— Lijiayuan Village, Qilicun Township, Yanchang County, Yan'an City

## Boosting Charitable Causes

We support and encourage employee participation in a variety of volunteer activities, disseminating positive energy throughout society through practical actions.

Total contributions to charitable donations:

RMB  
**2,269,900**

Total employee attendance at volunteer services:

**15**

Total hours of volunteer service by employees:

**60** hours

### Case "Love Builds Dreams with Estun" Campaign

On May 20, 2023, coinciding with the 33rd National Disability Day, Estun organized 15 volunteers to participate in the "Love Builds Dreams with Estun" charity event at the Junzi Home for the Disabled. Volunteers distributed essential goods like milk, rice, and oil to the attendees, and engaged in activities such as dumpling making and flag painting, to convey Estun's message of care and support.





# Key Performance Table

Indicator	Unit	2023	
<b>Economic Indicators</b>			
Total assets	RMB 1 million	10,082	
Net profit attributable to owners of the parent	RMB 1 million	135	
Operating revenue	RMB 1 million	4,652	
Total tax payment	RMB 1 million	239	
<b>Environmental Indicators</b>			
Environmental Management	Total investment in environmental protection	RMB 1 million	1,928
	Environmental pollution incidents	/	0
	Compliance rate for wastewater, exhaust emissions, and plant boundary noise	%	100
	Hazardous waste disposal compliance rate	%	100
Energy Management	Natural gas	cubic meters	392,466.02
	Gasoline	tons	18.69
	Diesel	tons	26.90
	Outsourced electricity	kilowatt hours	16,168,600
	Self-built photovoltaic power generation	kilowatt hours	1,481,300
	Total comprehensive energy consumption	tons of standard coal	2,575.80
	Comprehensive energy consumption intensity	tons of standard coal per RMB 1 million of revenue	0.55
GHG Emissions	Direct GHG emissions (Scope 1)	tons of CO <sub>2</sub> equivalent	842.00
	Indirect GHG emissions (Scope 2)	tons of CO <sub>2</sub> equivalent	8,721.85
	Total GHG emissions	tons of CO <sub>2</sub> equivalent	9,563.85
	GHG emission intensity	tons of CO <sub>2</sub> equivalent per RMB 1 million of revenue	2.06
Water Resource Management	Total amount of water intake	tons	177,681
	Water intake intensity	tons per RMB 10,000 of revenue	0.38
Waste Management	Chemical Oxygen Demand (COD)	tons	7.20
	Ammonia nitrogen	tons	0.91
	Suspended solids (SS)	tons	2.85
	Total phosphorus	tons	0.08
	Total nitrogen	tons	0.93
	Animal and vegetable oils	tons	1.23
	Total exhaust emissions	cubic meters	260,137,100
	Volatile organic compounds (VOCs)	kilograms	347.56
	Particle matter (PM)	kilograms	405
	Hazardous waste generation	tons	97.44
	Hazardous waste recycling rate	%	5
	General waste generation	tons	2,217
	General waste recycling rate	%	45

Indicator	Unit	2023		
<b>Social Indicators</b>				
R&D Innovation	Total R&D investment	RMB 1 million	503	
	R&D investment as a percentage of operating revenue	%	10.81	
	Number of R&D staff	persons	1,201	
	Proportion of R&D staff	%	31.19	
Supply Chain Management	Total number of suppliers	/	499	
	By region	Suppliers from the Chinese mainland	/	441
		Suppliers from Hong Kong, Macao and Taiwan	/	2
		Overseas suppliers	/	56
Production Safety	Investment in production safety	RMB 1 million	6.66	
	Major production safety accidents	/	0	
Employees	Total number of employees	persons	3,851	
	Gender Structure of Chinese Employees	Chinese male employees	%	80.38
		Chinese female employees	%	19.62
	Age Structure	Employees aged 30 and under	%	36.02
		Employees aged 31-50	%	54.16
		Employees aged 51 and above	%	9.82
	Academic Structure	Employees with associate degree or below	%	50.04
		Employees with bachelor's degree	%	37.70
		Employees with graduate/MBA degree or above	%	12.26
	Professional Structure	Technical staff	%	31.19
		Sales staff	%	22.41
		Financial staff	%	2.16
		Administration staff	%	9.06
Production staff		%	33.91	
Others		%	1.27	
The proportion of female employees in middle and senior management		%	18.91	
Employee turnover rate	%	19		
Community Engagement	Total attendance of online employee training sessions	person-times	33,987	
	Total online employee training hours	hours	81,736	
	Annual online training hours per employee	hours	35.9	
	Total spending on charity donations	RMB	2,269,900	
	Total spending on consumer support	RMB	352,800	
	Hours of employee volunteer activities	hours	60	
	<b>Governance Indicators</b>			
Anti-corruption training coverage	%	100		
Special Audit on business ethics and anti-corruption	times	3		

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# About This Report

This is the third Environmental, Social and Governance (ESG) report publicly released by Estun Automation Co., Ltd. It aims to inform stakeholders of the Company's practices and accomplishments in economic, social, and environmental aspects. Meanwhile, the Company also seeks oversight from stakeholders to enhance its ESG management practices more effectively.

## Reporting Scope

**Organizational Scope:** The scope of this report aligns with that of the annual consolidated financial statements of the Company.

**Time Range:** This report covers the period from January 1, 2023, to December 31, 2023.

**Reporting Period:** This report is an annual report.

*Standards for the Contents and Formats of Information Disclosure by Companies Offering Securities to the Public No. 2—Contents and Formats of Annual Reports (2021 Revision)* by China Securities Regulatory Commission

*Shenzhen Stock Exchange Social Responsibility Instructions to Listed Companies* issued by the Shenzhen Stock Exchange

*Environmental, Social and Governance Reporting Guide* by the Hong Kong Stock Exchange

## Preparation Process

Develop the preparation plan → Assemble the drafting team → Identify stakeholders and significant issues → Determine the reporting framework → Write, revise, and refine the report → Report review → Report publication → Collect feedback for continuous improvement

## Assurance of Accuracy

The Company assures that there are no false records, misleading statements, or significant omissions in the contents of this report, and is responsible for its truthfulness, accuracy, and completeness.

## Report Availability

This report is published in PDF format and is available on the following websites: the Shenzhen Stock Exchange official website (<http://www.szse.cn>), the CNInfo news portal (<http://www.cninfo.com.cn/new/index.jsp>), and the official website of Estun Automation Co., Ltd. (<http://www.estun.com>).

For a hard copy of the report, please email [zqb@estun.com](mailto:zqb@estun.com) or contact us at 025-52785597.

(To minimize environmental impact, we recommend choosing the digital version of the report. We appreciate your cooperation!)

Abbreviation in the Report	Definition of Terms
Estun, the Company, we	Estun Automation Co., Ltd.
Cloos	Carl Cloos Schweißtechnik GmbH
Trio	Trio Motion Technology Ltd
M.A.i.	M.A.I GMBH & CO.KG
Barrett	BARRETT TECHNOLOGY,LLC

## Source of Information

The operational and management data disclosed in this report are as of December 31, 2023. The data and cases presented in this report are all derived from original operational records or financial statements of Estun and its subsidiaries. Unless otherwise specified, all monetary amounts mentioned in this report are measured in RMB. In the event of discrepancies with the financial statements, the financial statements shall prevail.

## Reporting Principles

This report has been compiled according to the GRI Standards by the Global Sustainability Standards Board the United Nations Sustainable Development Goals (SDGs),

*ISO 26000:2010 - Guidance on Social Responsibility* by the International Organization for Standardization

the national standard *Guidance on Social Responsibility Reporting* (GB/T36001-2015) by the Standardization Administration of China



# Feedback Form

Dear Reader,

Greetings!

We appreciate you taking the time to read the *Estun Automation Co., Ltd. 2023 ESG Report*. Your feedback is crucial to us, as it enables us to enhance our ESG management and implementation. We kindly ask you to share your thoughts, suggestions, and feedback on this report, allowing us to make continuous improvements. You are welcome to complete the following form and send it back to us either by email or by mail.

1. How would you rate the report overall?

Excellent       Good       Average       Below Average       Poor

2. How do you rate the quality of ESG information revealed in the report?

Excellent       Good       Average       Below Average       Poor

3. How would you assess the structural organization of the report?

Excellent       Good       Average       Below Average       Poor

4. What is your opinion on the design and format of the report?

Excellent       Good       Average       Below Average       Poor

5. How do you rate the readability of the report?

Excellent       Good       Average       Below Average       Poor

6. Does the content disclosed in this report meet your expectations?

Yes       No       Unsure

7. Does this report comprehensively reflect the social responsibilities undertaken by Estun?

Fully Reflected       Partially Reflected       Not Reflected

8. What suggestions or comments do you have regarding Estun's ESG management practices and this report? We welcome your input.

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