




Customer Responsiveness

- Contribute to customers that manufacture cutting-edge devices by maintaining an accurate and timely grasp on customer needs and providing innovative technologies for future generations
- Propose optimal solutions that contribute to value creation for customers as a production equipment company with a diverse product range
- Make full use of state-of-the-art AI and digital technologies and provide high-value-added maintenance service that support the stable operation of equipment
- Continuously develop the PDCA cycle to further enhance customer satisfaction, a key management theme since our founding

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SDGs Initiatives

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|  | <ul style="list-style-type: none"> ▪ Contribute to customer innovation and value creation through the proposal of optimal solutions and innovative technologies ▪ Diversify industries and create added value for products ▪ Improve resource use efficiency and expand the introduction of clean and environmentally-friendly technologies |
|  | <ul style="list-style-type: none"> ▪ Ensure sustainable forms of production and consumption throughout product life cycles by considering safety and the environment ▪ Support the stable operation of various generations of equipment while further improving productivity and promoting reuse and recycling ▪ Prevent waste generation, and reduce waste by reusing and recycling |
|  | <ul style="list-style-type: none"> ▪ Build strong relationships of trust by strengthening global partnerships with customers |

Solutions that Create Value for Customers

Systems for Creating Value for Customers

In fiscal year 2022, amid ongoing travel restrictions and other measures due to COVID-19, the transition toward a data-driven society advanced even further and the semiconductor market reached its largest scale ever. As a result, the semiconductor production equipment market, in which Tokyo Electron participates, also grew significantly. In conjunction with this growth, we received more requests and inquiries from customers than ever before.

Our Account Sales Division is promoting new technology development to meet the needs for next-generation leading-edge technology in fields such as memory, logic and foundry. In addition, the Global Sales Division responds to the needs of more than 100 customers in Japan and overseas who deal in communication devices, image sensors, power devices and other products for the rapidly growing Chinese market, and the industrial IoT market.

These two divisions cooperate with business units and global sites that deal in equipment and respond to requests for not only leading-edge devices but also essentially all device applications. As well, they help customers with issue resolution and value creation by providing optimal solutions with an eye to the future.

In addition, we have been working to strengthen the front-line functions that connect our customers' sites and our Company in order to accurately grasp the issues and requirements of our customers in their product development and manufacturing operations, and provide this as feedback to our main development and manufacturing sites in a timely manner. Going forward, we will accelerate R&D by carefully confirming and adjusting long-term technology roadmaps, including key technologies, with customers. Furthermore, we will assign highly skilled customer engineers to our customers' sites and work to improve equipment utilization rates and understanding of the customers' potential needs.

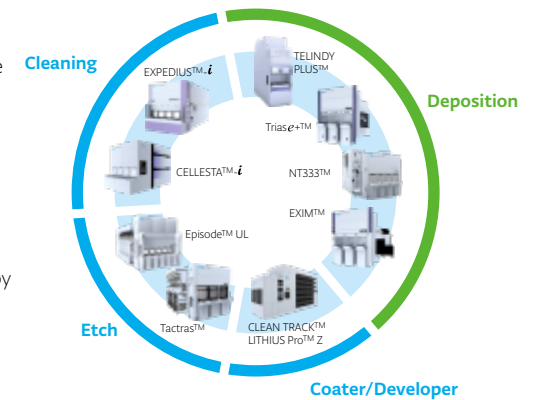
In addition, we are working to improve the technical skills and interpersonal skills of our more than 4,700 field engineers worldwide, install equipment at overseas subsidiaries and enhance information sharing and in-house coordination related to improving work efficiency using the work-time management system in order to further improve product quality and stability in our service and support activities. We aim to provide customers with high-value-added services by utilizing our wealth of knowledge and systems to propose customized solutions for the various challenges they face.

Proposing Customer Solutions Leveraging a Broad Portfolio of Products

We are practicing product development initiated from the customer perspective in order to meet the needs of production sites, such as improved yield and improved equipment efficiency per-unit area through enhanced productivity and smaller footprints. Each division works in close collaboration with one another, such as our Account Sales Division, which identifies customer demands for next-generation technology and beyond, and our Corporate Innovation Division, which reviews the integration of those demands into products.

In addition to developing leading-edge technologies, we are also continuously improving the performance of our mass production equipment, so that we can proactively respond fast and suitably to the needs of our customers spanning multiple generations.

In proposing solutions to customers, we leverage a broad portfolio of products, including those used in the series of each patterning process requiring advanced technological capabilities, such as Deposition, Coater/ Developer, Etch and Cleaning. By providing not only manufacturing equipment but also optimal solutions including systems and software, we will support our customers in their pursuit of productivity and quality improvement in semiconductor manufacturing, thereby helping them to optimize their manufacturing processes and enhance their competitiveness.



Initiatives for Field Solutions

Field Solutions Business

As demand for semiconductors increases in various fields, such as medicine, finance, transportation and manufacturing, the miniaturization and integration of CPUs and memory devices to achieve higher performance is further advancing. To meet this demand, it is becoming an extremely important issue for our customers to improve the utilization rate of their equipment.

At Tokyo Electron, we are striving to further enhance our field solutions business by promoting knowledge management in field service, continuously improving the skills of field engineers and strengthening our global support system through the Total Support Centers (TSCs)* to ensure that the equipment we ship will operate stably in the market for a long period of time.

Furthermore, in order to comply with various regulations, such as overseas travel restrictions due to COVID-19, we are developing remote maintenance support and educational tools, and are striving to develop a high-value-added field solutions business that contributes to our customers' business operations.

*  TSC: Total Support Center. Refer to p. 22

Initiatives to Reduce Environmental Impact

In order to meet the needs of customers producing IoT-related products, etc., we are developing and producing a new reengineered equipment based on the previous generation of 200 mm wafer-compatible equipment. The reengineered equipment replaces old units and components with new ones while maintaining compatibility with existing processes, and achieves the same level of performance as the latest equipment in terms of transfer and other aspects, thereby helping customers improve productivity and reduce their environmental impact.

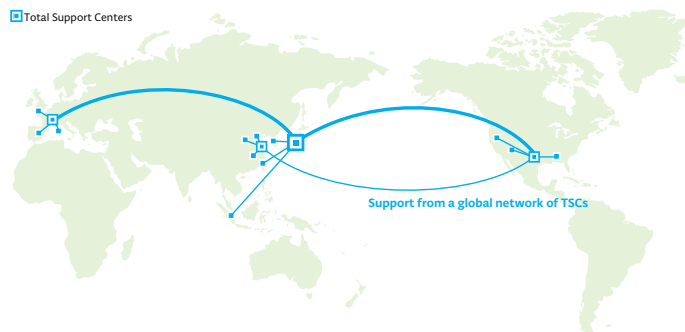
As part of our efforts to reduce environmental impact, we are also deploying LEAP*, a support service that extends the life cycle of our equipment.

Support for semiconductor production equipment, which consists of tens of thousands of parts, typically ends seven to eight years after discontinuation. The main reason for this is due to the discontinuation of parts or the difficulty in maintaining safety and quality. This has led to the promotion of replacement with newer equipment and the discarding of older equipment. In response to customer needs and in consideration of the SDGs, we began redesigning discontinued parts, and by strengthening and restructuring our support system, including repairs, we are now able to provide extended life cycle support for equipment to more than 15 years after discontinuation. Through these new support services, we are working to reduce equipment disposal and contribute to the continuous use of equipment over a long period of time.

* LEAP: Lifecycle Extension and Availability Program

Total Support Center

We established Total Support Centers (TSCs) in Japan, the United States, China and Europe to support overseas companies through our global network centered around Japan.



At each TSC, dedicated representatives maintain and utilize a database of information about customers' equipment and examples of similar incidents to strive for better support, and at the same time, conduct remote support service by operating TELeMetrics™ and other systems. In fiscal year 2022, we continued to establish a system where TSCs around the world support each other, taking advantage of time differences in each region, and strove to strengthen our global network. Through these initiatives, we respond to inquiries and problems from customers around the world with even greater speed and precision.

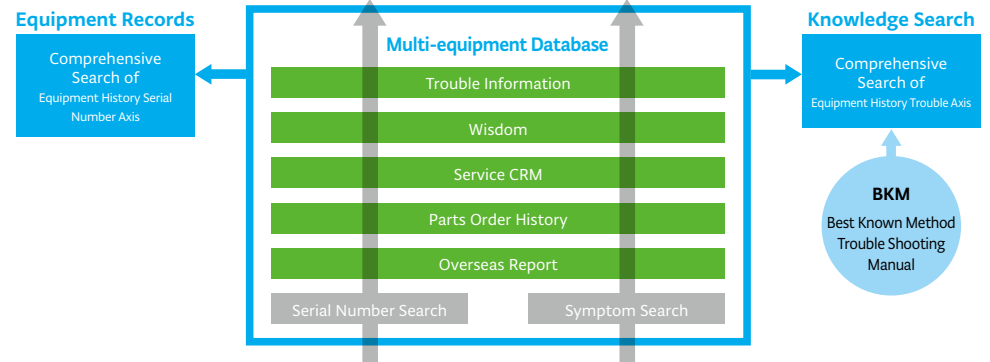
Knowledge Management

We promote knowledge management¹ throughout the entire Group so that it can deliver high-quality technical service swiftly. In the area of field service, we have built Service CRM² so that we can create a database and centrally manage customer equipment support and trouble histories. Operation of Service CRM has begun in Japan and is currently being rolled out globally.

Our knowledge management tools allow comprehensive searches of equipment history of multiple systems to be performed, thereby contributing toward shortening response time when there are problems. Equipment Records is a tool that allows batch searches of information such as equipment work histories and parts replacement histories based on equipment serial numbers, while Knowledge Search enables users to enter keywords of equipment-related problems to carry out batch searches of files and documents saved in the database based on past trouble information.

In fiscal year 2022, we worked on making the equipment database multilingual to support Korean and Chinese in addition to Japanese and English. This enables our global active field engineers to utilize the knowledge management tools with greater effectiveness. We will continue to promote efforts to manage the various systems throughout the entire Group using One Platform³ to increase work efficiency and strive to further improve our customer responsiveness.

Knowledge Management Tools



1 Knowledge management: Management approach to promote internal company sharing of tacit knowledge held by individuals, in order to encourage innovation and to improve overall productivity
 2 Service CRM: Service Customer Relationship Management
 3 One Platform: An initiative to manage information using a standardized database and system.

☐ Refer to Continuous Improvement of Business Operations on p. 26

Remote Support System

We promote remote support service using TELeMetrics™ to minimize any downtime of production equipment, to detect abnormal operation before any major defect occurs and to support the stable operation of equipment.

In addition, with the growing need to support on-site field engineers remotely due to travel restrictions and various regulations around the world arising from the COVID-19 pandemic, we are developing an advanced remote support system. This system not only allows audio and video from a customer's manufacturing site to be shared in real time but also enhances the confidentiality of information.

In fiscal year 2022, we added unique functions such as information protection, restricted image transmission and phone translation to our existing smart glasses* system to make remote support more convenient. At the same time, we are striving to further improve support quality, such as adding the option of tablet devices according to the environment of our customers.



Using smart glasses (image)

Unique Features Added by Tokyo Electron

Information Protection

Security feature for protecting information in case of loss or theft



Restricted Image Transmission

Information security feature whereby only necessary images are sent



Phone Translation

Feature that converts voice to text and displays a translation (multilingual support)



Dangerous Area Function

Function that warns the wearer when approaching a preset dangerous area



* Smart glasses: Worn like an ordinary pair of glasses, smart glasses can display images and digital information through the glasses



Engineer's Skill Up

In fiscal year 2019, we established our training operations center to enhance the training structure and promote globalization of field engineers. The center establishes a company-wide common skills management system that meets the standards of SEMATECH (a U.S. consortium for the joint development of semiconductors). The system helps us to deploy the most suitable human resources to provide customers with service based on an objective measurement of the skills of our engineers.

In fiscal year 2021, we began providing education for expert engineers to improve the skills of engineers at our overseas subsidiaries. The education includes training programs that enable technical support engineers from overseas to learn not only technical support but also acquire advanced skills related to development in a practical manner at our manufacturing sites in Japan. Furthermore, we also conduct training for field engineers

of our Global Data Engineering Team, established in fiscal year 2021, to develop data analysts specializing in digital transformation (DX)*.

In fiscal year 2022, field engineers who have acquired DX skills developed a program for the continuous improvement of business operations and are rolling it out globally. By linking this program to the field information database, it became possible to automatically update, analyze and visualize field information.

* Digital transformation:  Refer to Strengthening of Product Competitiveness through Digital Transformation (DX) on p.18 and  refer to Higher Productivity through Digital Transformation (DX) on p.26

Ensuring Safety for Customers

Providing Information to Customers

Tokyo Electron is committed to providing sufficient safety information on its products so that customers can safely use them.

All products purchased by customers come with a TEL Safety and Environmental Guidelines manual. The manual describes examples of potential risks associated with using our products together with the methods for averting those risks, as well as safety measures applied to products and recommended methods for product disposal. It is divided into such categories as chemical, electrical, mechanical and ergonomic, and is available in 12 languages* to ensure that customers around the world can understand the content accurately.

In addition to this manual, customers are also provided product-specific manuals tailored to the relevant product specifications.

If new safety warnings are identified after the product ships, we promptly report to the affected customers. In addition, we also strive to ensure that necessary information is communicated, particularly for customers to whom we deliver products that involve the use of hazardous chemicals or high-voltage electricity.

* 12 languages: Japanese, English, German, French, Italian, Dutch, Russian, Portuguese, Korean, Traditional Chinese, Simplified Chinese and Finnish



TEL Safety and Environmental Guidelines

Global Expansion of Training for Customers

We establish training centers all over the world, mainly at our development and production sites, and provide customers with training on equipment operation and maintenance so that products can be used safely. In fiscal year 2022, demand for web-based training (WBT) and remote training* increased as a result of continuing difficulty in holding equipment training on-site because of COVID-19. Under such a situation, we provide remote training for much of our equipment and strive to further enhance training content, such as by filming footage from easy-to-see angles beforehand and using some of them as video content. In addition, we are working to

* Remote training: A training course, although remote, where trainees interact with the instructor in real time while viewing actual equipment through their monitors

improve the content and quality of not only remote training but also WBT by sharing the equipment and methods we introduced with each training center.

Furthermore, taking into consideration the difficulty in overseas travel, we are also expanding our equipment lineup at the training centers of our overseas companies.

Going forward, we will continue to give priority to customer safety as we promote further development of our training environment.

Safe Design of Equipment

Taking the entire product life cycle into consideration, we carry out product risk assessments as early as possible in the development phase. We implement safe equipment design¹ to reduce the risks posed to humans by incorporating the assessment results in the design.

We conduct global surveys of increasingly strict laws and regulations and conduct compliance checks through third-party assessment bodies to ensure conformity with international safety standards, SEMI S2² and CE marking³ on the equipment we ship.

We have also established a system to comply with safety regulations of the regions where our equipment is delivered while working with overseas companies.

- 1 Safe equipment design: A design concept that eliminates the cause of the machine's harm to humans through the safe design of the machine
- 2 SEMI S2: A set of environmental, health and safety guidelines for semiconductor production equipment. It is used mainly by the leading manufacturers of semiconductor equipment in the United States and Europe, not only for semiconductors but also as safe procurement guidelines for electric and electronic device manufacturing equipment around the world.
- 3 CE marking: When exporting into the European Union (EU), CE marking defines rules for displaying a CE mark as proof that the equipment is safe and complies with EU-defined rules (directives)

Improvement of Customer Satisfaction

Customer Satisfaction Survey

Tokyo Electron conducts its own Customer Satisfaction Survey (TEL CS Survey) every year with the goal of making continual improvements based on customer feedbacks.

The survey started in fiscal year 2004, aimed at just a limited number of divisions. It was expanded to include all semiconductor production equipment divisions in fiscal year 2014, and later the flat panel display production equipment division and overseas subsidiaries in fiscal year 2016. Currently, it is implemented company-wide as a part of the Customer Satisfaction Survey Program (CSSP).

In the CSSP, a survey with specific questions is conducted at the same time each year, and the information obtained from the survey is analyzed by business unit (product), account (customer) and function (software, development, etc.), and the results are shared with relevant divisions, such as sales, equipment/plants and



service, for improvement at the level of practical business operations.

Improvements are also made continuously to all aspects of the survey method, including the questions asked, the analytical methods used and the overall operation of the survey activities.

In fiscal year 2022, two additional questions were added to the existing TEL CS Survey, and the survey was conducted as Advanced CS Survey in order to analyze the results from a new perspective. Approximately 1,400 individual customers (76.1% response rate) responded to the survey, giving an average score of three or higher ("Very Satisfied" or "Satisfied") for all survey questions*. The percentage of respondents who gave evaluations of "Very Satisfied" or "Satisfied," which is our annual sustainability goal, improved by 3.3 points from 96.7% in fiscal year 2021 to 100%. On the other hand, we are promoting Shift Left, which is an early-stage improvement initiative, such as promptly responding to customers who gave a score of 1 "Very Dissatisfied."

We will continue to work as one company-wide on activities through the CSSP so that we can continue to achieve our annual sustainability goals.

* For each question, average score is calculated for all customers who responded

Improvement Example

In the TEL CS Survey conducted in fiscal year 2018, many requests for improvements to the software were made. Since then, the System Software Innovation Division has focused on surveying and analyzing related questions and sharing the results with related parties in an ongoing effort to resolve issues for each product. PDCA activities are conducted to exchange opinions across products, study improvement measures, and report on progress.

As a result of our sincere efforts to incorporate customer feedback by introducing development support tools, improving development simulators, setting various KPIs related to business progress and implementing improvement plans such as measurement, we were able to achieve over three points on all software-related questions in the fiscal year 2022 survey, which is our annual sustainability goal.

PDCA Cycle

