Chapter 3

Value Creation by the Value Chain

Initiatives in the Value Chain

Leveraging our unique characteristics, we have built a superior business model and continually create new value by the value chain of our business activities anchored around material issues.

Overview

- Development of unique technologies for creating high-value-added next-generation products that contribute to technological innovation in semiconductors
- Continuous development that looks into the future based on the prompt comprehension of market and technological trends, as well as customer needs

Differentiation Points

- Close partnerships among our development sites in Japan and overseas, business divisions, and Corporate Innovation Division, as well as diverse collaborations with consortiums and academia
- Development of new products and functions with highest performance through the organic integration of specialized expertise in various fields
- Pursuit of development efficiency and new value creation by promoting digital transformation (DX)

Value Created

- Innovative, high-value-added and unique technologies and solutions that cover multiple semiconductor manufacturing processes
- Improvement in equipment productivity, such as higher throughput, a higher utilization rate, and smaller space requirements
- Equipment technology that increases environmental performance
  - Throughput: Ability to process wafers over a unit of time

Overview

- Establishment of stable production capabilities by building a sustainable supply chain
- Efficient manufacturing of high-quality, superior-reliability, safe and environmentally friendly products
- Creation of value through partnerships with suppliers

Differentiation Points

- Achieving stable procurement and production leveling through strategic procurement activities
- Implementing world-class manufacturing operations by utilizing our manufacturing know-how and knowledge and by carrying out thorough quality management in each process
- Promoting global environment preservation throughout the supply chain through E-COMPASS activities

Value Created

- High-quality and superior-reliability products incorporating leading-edge technologies
- Shortening of production lead times by optimizing the production plan and increasing the efficiency of manufacturing operations, etc.
- Safety-first operation

Overview

- Be the sole strategic partner for customers by providing the Best Products, Best Technical Service
- Proposals on optimal solutions that contribute to the creation of value for our customers

Differentiation Points

- Leveraging a wide range of product lineup to provide solutions, and meeting the broader-ranging needs of the diversifying semiconductor market
- Accurate comprehension of customer needs through the development of global operations, leading to prompt provision of technologies and solutions
- Continuous initiatives to improve customer satisfaction

Value Created

- High-value-added products incorporating innovative technologies by simultaneous parallel evaluation of four technology generations
- Products that address a variety of applications and reengineered equipment
- Responsiveness to customers through close collaboration throughout the entire Group

Sustainability Initiatives in the Value Chain

- Human Resources
- Human Rights
- Compliance
- Supply Chain Management
- Environment
- Safety
- Quality
- Continuous Improvement of Business Operations and Creation of New Values
- Corporate Governance
- Risk Management
- Information Security
- Engagement with Capital Markets
- Evaluation from Third-party Institutions
- Participation in Global Initiatives
Tokyo Electron will promote balanced basic and applied R&D and continue to create highly unique technologies through the utilization of in-house and outside knowledge and global collaboration, while always remaining conscious of technological trends and the most current customer needs.

We are creating innovative and unique technologies necessary to manufacture leading-edge semiconductors by ascertaining technological trends and customer needs early on through global marketing activities and service support activities, sharing that technological trends and the most current customer needs.

We are also working to deploy intellectual property management, we are formulating and implementing short-term as well as medium- to long-term development strategies that are associated with the existing businesses and progressing R&D of fundamental technologies that would be tied to our future businesses. Collaboration between our major development sites in Japan and development sites across the globe as well as alliances with outside consortiums, research institutes, academia and suppliers, enable us to strengthen our R&D capabilities further and continue to develop high-value-added technologies that will help customers create value. We are also working to deploy intellectual property management and to promote R&D with digital technologies that make full use of AI.

Key Themes for Medium- to Long-Term Value Creation

- Timely development of high-value-added technologies and products through promotion of Shift Left
- Creating innovative and unique technologies that contribute to manufacturing leading-edge semiconductors
- Increasing investment in human resources and R&D as well as pursuing development efficiency

Management Resources to Be Invested

| R&D investment Over five years, beginning in fiscal 2023 | Human resources possessing knowledge in a variety of specialized fields related to semiconductor production equipment
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<td>more than 1 trillion yen</td>
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<td>14 (7 in Japan and 7 overseas)</td>
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Primary Management Indicators

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<tr>
<td>R&amp;D expenses</td>
<td>Number of new product releases</td>
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Sustainability Initiatives

- Initiatives related to product environment: Medium- and Long-term Environmental Goals and State of Progress
- Future-oriented development of environmental technologies through partnerships with suppliers (E-COMPASS)
- Initiatives with Suppliers
- Structure to promote innovative development that takes advantage of diversity
- Development efficiency improvement through the promotion of DX Initiatives of Digital Transformation (DX)
**Main Material Issues Initiatives**

**Strengthening Research and Development Capabilities**

To continuously create the high value-added next-generation products needed for technological innovation in semiconductors and bring them to the market in a timely manner, we promote technology development and integration while domestic and overseas development sites, business divisions and the Corporate Innovation Division maintain their respective individuality and collaborate in necessary areas. We construct development systems ranging from fundamental technology to mass-produced products and promote DX that uses AI technologies in all our R&D. Each development site and business division has an eye toward future generations and is engaged in the development of semiconductor production equipment with innovative technologies. They also promote R&D related to peripheral technologies for this production equipment.

The Corporate Innovation Division strives for the creation of further high-value addition by working closely with each development site to develop cross-function initiatives in each product area as well as promoting and optimizing R&D while maintaining a bird’s eye view on the entire development structure. In addition, the division is also engaged in a search for potential growth areas, as well as in R&D of fundamental technologies toward creating value in the future.

**Shift Left**

We are focusing on the “Shift Left” approach, investing in research resources such as technology, personnel and expense into the early processes of product development. Through this approach, we are endeavoring to develop and coordinate research for multiple future generations in order to realize the technology roadmaps we have created with customers. With product development through the “Shift Left” approach, we understand customer needs at an early stage, reflect the information obtained from feedback into our R&D and propose superior products. This contributes to maximizing yield for customer devices and capacity utilization of their mass production line equipment. We are also promoting on-site collaboration for early delivery of evaluation equipment to customers’ fabs and development and research laboratories, and are working to accelerate the process in which R&D is reflected in mass production equipment as well as to optimize development efficiency.

**Collaboration with Consortiums and Academia**

For many years, Tokyo Electron has been focusing on joint research and development efforts with domestic and international consortiums and academics (universities). These initiatives include development under CHIPS Act* that are currently being promoted in the USA and Europe to help develop infrastructure to maximize the benefits of open innovation-based development in each region. In recent years, we are also making efforts to boost human resource development in the semiconductor industry through collaboration with major universities in Japan and abroad.

We continue our wide range of collaborations from applications to product development in various fields of semiconductor technology. R&D is of course underway in the front-end and back-end areas at TEL Technology Center, America, which marked its 20th anniversary in 2023. We also participate in a global research hub for hardware development of next-generation AI, leading-edge logic and quantum computing. Collaboration is also underway with imec in the field of EUV and high-NA EUV patterning technologies and logic process development, and we have a partnership with BRIDG, a non-profit public-private partnership in Florida, USA.

With the diversification of semiconductor development, we collaborate with the Institute of Advanced Industrial Science and Technology (AIST), one of Japan’s largest public research institutions, leveraging its world-class research environment and personnel to enhance our own development within the frame in the MRAI* and 2D material-related research.

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1. CHIPS Act: Creating Helpful Incentives to Produce Semiconductors and Science Act. An act to support investments in the United States for the development and mass production of AI, quantum computing and communications technology
2. BRIDG: Brockport Regional Innovation District. A public-private partnership for an open technology that uses a specific wavelength of 13.5nm high-k nickel silicide in next-generation EUV, an exposure technology that shrinks the resolution limit by increasing the numerical aperture (NA).

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**Product Marketing**

We are endeavoring to further enhance the productivity of product development by having our sales departments and product marketing departments appropriately fulfill their respective roles. Our sales departments not only take responsibility for reliably delivering products and services to customers based on solid relationships of trust, but are also working to improve customer satisfaction levels still further by accurately gauging customers’ true needs and working in partnership with development departments on initiatives relating to the improvement and enhancement of products and services.

Meanwhile, our product marketing departments work to plan advanced products that meet the future needs of customers in target markets, and roll out activities based on these plans. In addition to considering new products and functions based on the seeds created by our development divisions, our product marketing departments also formulate plans for optimal collaboration including tie-ups with partner companies and consortiums, to create products with still higher added value.

In the semiconductor industry, where change happens at bewildering speed, companies need the flexibility to change policies in a timely manner as and when circumstances require. Our sales departments and product marketing departments work together in developing product marketing activities that anticipate market needs and contribute to customers’ products, and in doing so, help improve our product competitiveness and promote our Shift Left approach.

**Roles of Sales Departments and Product Marketing Departments for Product Development**

We are tackling the development of new high-performance products and new functionalities by leveraging and organically integrating our expertise in various fields. We are creating new value to offer to our customers, including the development of fundamental technologies, as well as software to control equipment, hardware and total systems. We are also undertaking new development and optimization of operation systems that leverage these, with performance enhancement through inter-process coordination.

In addition, we are identifying issues at sites at an early stage after equipment installation and making continuous improvements using field information and equipment data to boost productivity for our customers, contributing to reduction of cycle-time until product release.

**Cycle-time Reduction for Customer Product Release**

We continue our strong partnerships with key customers, contributing to reduction of cycle-time until product release. Cycle-time is crucial to the semiconductor industry, where change happens at bewildering speed, companies need the flexibility to change policies in a timely manner as and when circumstances require. Our sales departments and product marketing departments work together in developing product marketing activities that anticipate market needs and contribute to customers’ products, and in doing so, help improve our product competitiveness and promote our Shift Left approach.

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**The Use of Materials Informatics**

Amid growing demand for the development of new materials for use in semiconductors, we are moving forward with new R&D initiatives. A method known as “materials informatics”, uses machine learning to optimize the selection of candidate materials and process methods by incorporating the results of simulations and experimental data, as part of the search for new materials. By using this method, we have discovered a new candidate material for high dielectric-constant films, using a metallic oxide. The use of AI enables innovative high-value-added development work that is not bound by conventional ideas or practices.

**Intelligent Property Management**

We are promoting intelligent property (IP) management under the fundamental tenet of contributing to an increase of corporate profits by supporting our business activities through IP protection and its utilization.

To achieve sustainable growth in the semiconductor industry where the growth is driven by technological innovation, we are globally expanding our R&D activity including industry-academia collaborations. IP professionals are assigned to headquarters, R&D and production sites around the world to evaluate inventions created in R&D projects from various perspectives such as technology trends or marketing, and we have established IP portfolios aligned with our technology and product strategies.

In 2022, the number of inventions created in Japan was 1226 and 317 in other countries. We have maintained the global patent application rate approximately 70% for 10 consecutive years, and the allowance rate of the filed patents has reached 74% in Japan and 81% in the United States. Furthermore, various inventions have been created through collaboration with domestic and overseas business partners, consortiums and academia, and we have jointly filed various applications on 47 inventions in the past two years.

Consequently, the number of active issued patents as of March 31, 2023 is 25,464, which is the largest number in the semiconductor production equipment industry, and we are building our competitive edge in the intellectual property field on a global level.

In recognition of these initiatives, we have been selected as one of the “Clarivate Top 100 Global Innovators 2023” for the second consecutive year. In this award, Clarivate, a global information service company, makes an original evaluation based on patent data, and once a year recognizes companies or institutions protecting original invention ideas with intellectual property rights, and leading the world’s business through successful commercialization.

We strive to improve the competitiveness of our products through differentiating our own technologies with building a competitive IP portfolio in terms of both quantity and quality.
Along with striving to build a sustainable supply chain, we have established a system for manufacturing high-quality products more efficiently.

We are constantly pursuing production innovation based on the themes of safety, high quality and superior reliability, and putting together manufacturing operations that are environmentally friendly. Besides working toward a vertical transfer from product development to mass production via further improvements to productivity, we are also promoting the creation of manufacturing core systems that can respond swiftly to market fluctuations, as well as strengthening and leveling of production capacity.

To ensure stable and sustainable procurement, we carry out sustainability and BCP assessments throughout the supply chain based on industry codes of conduct, as well as share knowledge with our suppliers regarding safety, quality, the environment and compliance. We value fair and transparent relationships with our suppliers and aim to grow alongside them and contribute to society on a global level through firm relationships based on trust.

We monitor the quality status of suppliers, conduct audits and provide feedback. We share forecasts based on demand projections for semiconductors with suppliers and build a system for the stable supply of products.

Streamlining manufacturing operations with consideration toward the operating margin and ROE.

**Key Themes for Medium- to Long-term Value Creation**

- Creating production capabilities and manufacturing core systems appropriate for the market size
- Optimizing management resource allocation to truncate the transition period from product development to mass production
- Streamlining manufacturing operations with consideration toward the operating margin and ROE

**Management Resources to Be Invested**

- Many years of know-how (people and products) in the semiconductor production equipment business
- Manufacturing core systems that make full use of the newest digital technologies
- Solid cooperative working relationships with suppliers

**Primary Management Indicators**

- Direct and indirect manufacturing costs
- Production lead times
- Procurement stockout rate

**Sustainability Initiatives**

- Quality control management
- Supply Chain Management
- Initiatives for reducing CO2 emissions and introducing renewable energy at plants and offices
- Medium- and Long-term Environmental Goals and State of Progress
- Shortening of production lead times and leveling

**Risk Management Initiatives**

- Interventions in the Company’s production due to natural disasters or delays in component procurement due to deterioration in the business conditions of a supplier or an increase in demand that exceeds the supplier’s supply capacity could lead to delays in the supply of products to customers.

- Safety problems with the Company’s products or serious accidents resulting in workplace injuries could lead to damage to customers, liability for damages and a decline in public trust and confidence in the Company’s safety initiatives.

- The occurrence of a product defect could lead to liability for damages, costs for countermeasures and a decline in the Group’s brand and credibility.

- The inability to respond appropriately to each country’s climate change policies, environmental laws and regulations, and customer needs could lead to additional related costs such as for developing new products or changing specifications, as well as to reduced product competitiveness and diminished public confidence in the Company.

- To achieve medium- to long-term environmental goals that include the net zero target, implement measures such as reducing greenhouse gas emissions from the use of our products, increasing the rate of renewable energy usage at plants and offices, reducing overall power consumption, reviewing packaging materials, and promoting a modal shift.

- To provide technologies, etc., that contribute to higher performance and energy efficiency of semiconductor devices through implementation of our E-COMPASS initiative.
Sustainable Procurement Strategies

In the semiconductor production equipment business, supply chain management is becoming increasingly important. To conduct business activities effectively and reliably, it is extremely important to promote strategic procurement activities proactively.

The Corporate Production Division is promoting the optimization of procurement and parts inventories throughout the Group by strengthening supplementary parts systems between manufacturing sites and examining procurement processes. It is also periodically conducting supply chain sustainability assessments and BCP assessments, and improving commercial distribution management through the further enhancement of supplier maps, etc. In addition, we are working to adjust sales plans with production, procurement and inventory plans by sharing both short-term and medium-term order forecasts between sales and manufacturing divisions, as well as working to ensure stable procurement and both production and start-up process leveling. Through these efforts, we are seeking to further improve safety, quality and efficiency of equipment production and start-up.

Based on the belief that smooth communication with suppliers is important, we hold production update briefings. TEL Partners’ Day and other events on a regular basis to create opportunities to share market trends, our management policy and business policies, and sustainability initiatives with our suppliers. In September 2022, we reaffirmed the intent of “Council on Promoting Partnership Building for Cultivating the Future” pursued by the Cabinet Office, Ministry of Economy, Trade and Industry and Small and Medium Enterprise Agency, and announced “Declaration of Partnership Building” in Tokyo Electron Technology Solutions.

We are constantly striving to innovate in production and further improve profitability at manufacturing sites while engaging in the strategic development of world-class manufacturing operations through the use of our manufacturing know-how, knowledge and the equipment data we have accumulated over many years. In assembly, adjustment, inspections and other processes, we are working to improve product quality by implementing in-process quality control that includes thorough screening and simulation verification, to prevent non-conforming products from passing through to subsequent processes. We are also proactively investing, including new plant buildings and manufacturing facilities to increase production capacity while promoting production leveling, in anticipation of diversifying technological needs and market expansion. Tokyo Electron Technology Solutions began operations of production buildings at its Tohoku office in July 2020 and its Yamanashi office in August 2020, increasing their production capacities two-fold and 1.5-fold respectively. Tokyo Electron Miyagi began operation of its Miyagi Technology Innovation Center in October 2021 aimed at the evolution of innovative production technologies. The Tohoku office is also constructing the Tohoku Production and Logistics Center (provisional name), scheduled for completion in autumn 2023. We also plan 400 billion yen or more in capital investment over the five years to fiscal 2027 with the aim of further boosting production capacity and efficiency.

**World-class Manufacturing Operations**

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**Main Material Issues Initiatives**

- **Sustainable Procurement Strategies**: We are working to improve product quality by implementing in-process quality control that includes thorough screening and simulation verification, to prevent non-conforming products from passing through to subsequent processes. We are also proactively investing, including new plant buildings and manufacturing facilities to increase production capacity while promoting production leveling, in anticipation of diversifying technological needs and market expansion.

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- **ERP**: Enterprise Resource Planning. Refer to Continuous Improvement of Business Operations on p. 58

- **MES**: Manufacturing Execution System

- **BOP**: Bill of Process

- **BOP**: Bill of Output

- **Closed-Loop Management**: We are working to improve product quality by implementing in-process quality control that includes thorough screening and simulation verification, to prevent non-conforming products from passing through to subsequent processes. We are also proactively investing, including new plant buildings and manufacturing facilities to increase production capacity while promoting production leveling, in anticipation of diversifying technological needs and market expansion.

- **Automated production of O₂ boxes at the logistics center**: We are working to improve product quality by implementing in-process quality control that includes thorough screening and simulation verification, to prevent non-conforming products from passing through to subsequent processes. We are also proactively investing, including new plant buildings and manufacturing facilities to increase production capacity while promoting production leveling, in anticipation of diversifying technological needs and market expansion.

- **Material Issues Initiatives to Reduce Environmental Impact**: We are working to improve product quality by implementing in-process quality control that includes thorough screening and simulation verification, to prevent non-conforming products from passing through to subsequent processes. We are also proactively investing, including new plant buildings and manufacturing facilities to increase production capacity while promoting production leveling, in anticipation of diversifying technological needs and market expansion.

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Since our company’s inception, improvement of customer satisfaction has been a significant management theme. We will build strong, trust-based relationships with our customers by providing the Best Products, Best Technical Service in order to be their sole strategic partner.

We help customers manufacture leading-edge devices by grasping the latest technological trends and customer needs in an accurate and timely manner, as well as developing and providing innovative technologies for future generations. Moreover, we are strengthening our business in the diversifying semiconductor market (MAGIC market)\(^1\) based on our leading-edge technologies cultivated over the years and our extensive installation record. We also strive to help customers maximize their return on investment through the sale of reengineered equipment and other products. By leveraging our strength as a semiconductor production equipment manufacturer with a diverse product lineup and proposing optimal solutions, we will contribute to the creation of further value for our customers.

\(^1\) Refer to “Expansion into the Diversified Semiconductor Market” on p. 37

### Initiatives in the Value Chain

**Sales**

We propose optimal solutions that contribute to value creation in order to become the sole strategic partner for our customers.

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### Primary Management Indicators

- Customer satisfaction
- Market share by major customers and products
- Operating margin\(^1\)

\(^1\) Achieve evaluations of “Very Satisfied” or “Satisfied” for 100% of customer satisfaction survey responses (fiscal 2024)

### Risk Management Initiatives

- Periodically review market conditions and orders received at the Board of Directors and other important meetings, and appropriately adjust capital investments, personnel/inventory planning and other aspects of business
- The Account Sales Division and the Global Sales Division strengthen the sales framework and customer base by grasping investment trends of customers and responding to a wide range of customer needs
- Launch a dedicated security organization and establish an information security system that conforms to international standards by having security assessments conducted by external experts, etc.
- Establish globally standardized rules and regulations for information management and implement response guidelines

### Value Creation by the Value Chain

**Key Themes for Medium- to Long-term Value Creation**

- Improving our responsiveness to customers and customer satisfaction
- Increasing mutual profits by providing the Best Products, Best Technical Service
- Improving our position among our major customers

**Management Resources to Be Invested**

- A global sales and service system in which the Account Sales Division, the Global Sales Division business units and overseas subsidiaries coordinate with one another
- Broad-ranging knowledge and comprehensive technological capabilities born from our diverse product lineup
- Mutual trust with customers built through many years of performance records

### Risk Management Initiatives

- **Market Fluctuations**
  - A rapid contraction of the semiconductor market could lead to overproduction or an increase in dead inventory
  - A sharp increase in demand could lead to an inability to supply customers with products in a timely manner, resulting in lost opportunities

- **Geopolitics**
  - Geopolitical tensions could undermine the international order and global macroeconomic conditions, affecting national and regional security, foreign, industrial or environmental policy. This could in turn lead to supply chain disruptions or deterioration of the macroeconomic environment, restricting the Company’s ability to operate business
  - Carefully monitor the international situation as well as the diplomatic and security measures and industrial policy trends in each country and region
  - Anticipate the impact of macroeconomic fluctuations and regulations related to product imports/exports or technological development on the Company’s business and consider countermeasures in advance

- **Information Security**
  - Breaches of information or the suspension of services due to unauthorized access by cyberattack against the Company or suppliers, natural disasters or other factors could lead to diminished public confidence in the Company or liability for damages
  - Launch a dedicated security organization and establish an information security system that conforms to international standards by having security assessments conducted by external experts, etc.
  - Establish globally standardized rules and regulations for information management and implement response guidelines

**Primary Management Indicators**

- Customer satisfaction
- Market share by major customers and products
- Operating margin\(^1\)

\(^1\) Achieve evaluations of “Very Satisfied” or “Satisfied” for 100% of customer satisfaction survey responses (fiscal 2024)
Development of Global Operations

We established the Customer Collaboration Group and are working to further strengthen our customer support capabilities in order to be the sole strategic partner for our customers. The Customer Collaboration Group consists of the Account Sales Division and the Global Sales Division. Major semiconductor manufacturers, who are our traditional customers, share the needs for next-generation leading-edge technologies in memory, logic devices, foundry and other fields, to the Account Sales Division, and this leads to R&D of new technologies, and the Global Sales Division responds to the needs of domestic and overseas customers that handle products for the rapidly growing Chinese market and the industrial IoT market.

These two divisions work closely with business units, development and manufacturing divisions, service divisions and overseas subsidiaries to develop global operations throughout our entire Group. (†One-TEL), enabling us to quickly provide the technologies, services and solutions that our customers demand.

Proposing Customer Solutions Leveraging a Wide Range of Product Lineup

To solve customers’ issues and contribute to the manufacture of highly competitive devices, we are developing proposal activities that leverage our wide range of product lineup, including equipment for the four sequential key processes of deposition, coater/developer, etch and cleaning in the front-end process. We simultaneously strive to help customers improve productivity and quality in their development and manufacturing by providing optimal solutions that include remote support systems and software for maximizing equipment utilization rate. We are also continuously working to improve the performance of installed equipment to respond to customer requests for the manufacture of products that span multiple generations.

Expansion into the Diversified Semiconductor Market

In recent years, the semiconductor has been diversifying to meet the needs of various applications such as the spread of the metaverse, EVs and the autonomous driving level of automobiles, and IoT and devices for communication represented by generative AI, which is driven by digital transformation (DX) and green transformation (GX). We define the diversified semiconductor market as MAGIC (Metaverse, Autonomous mobility, Green energy, IoT & Information, Communications) market, and are strengthening our business by leveraging our leading-edge technologies and experience based on our extensive installation record.

In this market, we have been developing our business mainly as a field solutions (FS) business, but in April 2023, we integrated our optical device know-how cultivated in our flat panel displays (FPD) business to improve our technological innovation capabilities and seamless responsiveness to customers, and established the new DSS (Diverse Systems and Solutions) business division.

We will strive to further enhance our corporate value by efficiently allocating management resources to the MAGIC market, which is expected to grow at a high rate in the future.

To meet the diverse needs of our customers, we are also developing and producing reengineered equipment based on the previous generation 200/300 mm wafer-compatible equipment.

Main Material Issues Initiatives

In the pursuit of higher speed, lower power consumption and lower cost semiconductor, 3D system integration in back-end processes is advancing. The 3D system integration requires cleaner process environment to have better yield because it is close to the final stage of semiconductor manufacturing and front-end processes are sometimes repeated after this process. Therefore, equipment that integrates front-end and back-end process technologies is required. KGD with advanced testing is also important for the 3D integration of individual chips called Chiplet. To meet these requirements, we are developing bonding and laser edge trimming equipment based on the technology and experience we have cultivated in front-end processes, and wafer probes to ensure KGD.

Providing Safety-related Information on Products to Customers

We are committed to providing sufficient safety information on our products so that customers can safely use them. All our products come not only with a manual specific to the product specifications, but also a TEL Safety and Environmental Guidelines, manual applicable to all our products. The TEL Safety and Environmental Guidelines manual is available in 12 languages (English, Russian, Portuguese, Korean, Traditional Chinese, Simplified Chinese and Finnish) to ensure that customers around the world can understand the content accurately; it 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, divided into such categories as chemical, electrical, mechanical and ergonomic.

In recent years, safety warnings are identified after a product ships, we promptly notify these to the affected customers. We also make particular efforts to ensure that necessary information is communicated to customers to whom we deliver products that involve the use of hazardous chemicals or high-voltage electricity.

The reengineered equipment replaces old units and parts with new ones while maintaining compatibility with existing processes, and offers specifications at the latest equipment level in terms of transfer speed and other factors, thereby helping customers improve productivity and reduce environmental impact. In addition to sales of reengineered equipment of the ALPHA-8SE™ and UNITY™ Me¹, we plan to sell the reengineered equipment of the coater/developer in the future.

Initiatives for Improvement of Customer Satisfaction

We are working to build a solid relationship of mutual trust with customers by further enhancing customer satisfaction, which we have valued highly since our founding. In the semiconductor production equipment industry, with rapid technological innovation, we co-create future technology roadmaps with the semiconductor manufacturers that are our customers, to promote the concurrent evaluation of technologies up to four generations in the future and accelerate the technological development of Shift Left. This allows us to offer highly competitive products that help improve the yield rate of devices and maximize equipment utilization rate.

Further, at customer sites around the world, we are continuously implementing customer-oriented initiatives such as having our engineers quickly get installed equipment operating at maximum performance, proposing solutions to any specific technical issues and providing feedback on next-generation equipment.

In addition to these activities, we conduct our own annual Customer Satisfaction Survey. 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, to develop a PDCA cycle that leads to practical improvements.

In fiscal 2023, the results of our activities continued to be highly evaluated and received best awards from many of our customers. We will continue to provide the Best Products, Best Technical Service and strive to further improve customer satisfaction to be the sole strategic partner for our customers.

PDCA Cycle

In accordance with the survey results, we implement improvements and confirm progress of improvement activities.

Customer Satisfaction Survey

Activity preparation

Analyze and report survey results

Feedback to customers

Confirm progress of improvement activities

Customer feedback

Analysis and report

Survey results

PDCA improvement plan

Customer satisfaction survey

Survey of customers

The TEL Safety and Environmental Guidelines manual is available in 12 languages, including Japanese, English, German, French, Italian, Dutch, Russian, Portuguese, Korean, Traditional Chinese, Simplified Chinese and Finnish.
We have built a global support system, and deploy the Best Technical Service with high added value in a prompt and appropriate manner.

For installation and maintenance of semiconductor production equipment, we take advantage of a cumulative number of equipment installations of approximately 88,000 units to offer the Best Technical Service with high added value. We make full use of leading-edge AI, digital technology and knowledge management tools, and promote enhanced efficiency for our services to support the stable operation of various generations of equipment for a wide variety of applications.

By upgrading the skills of field engineers who interact with customers, we accurately identify customer needs to help provide timely feedback to our development and manufacturing divisions. In addition, we are further improving the quality of our services by contributing to continuous operations of customers’ equipment over a long period of time through support services that extend the life cycle of equipment, and providing advanced field solutions, such as Total Support Center (TSC) and remote maintenance services.

* 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.

Key Themes for Medium- to Long-term Value Creation
- Improving customer satisfaction through the provision of high-value-added services
- Maximizing service revenues through expanded sales of services such as comprehensive contract-based services
- Pursuing highly efficient and high-quality services that make full use of AI and digital technologies

### Sustainability Initiatives
- Improving the efficiency of start-up operations and maintenance services
- Safety initiatives for installation and maintenance services
- Provision of high-quality services
- Effective utilization of diverse talent

### Risk Management Initiatives
- Based on the “Safety First” approach, implement inherently safe design with an awareness of risk reduction at the product development stage
- Implement company-wide efforts such as promoting safety education tailored to each employee’s job and developing an incident reporting system
- Promote continuous education on quality to employees and suppliers to establish a quality assurance system and a world-class service system
- Resolve technical issues from the product development and design stage
- Thoroughly investigate the cause of any defects and implement measures to prevent the same or similar defects from occurring
- Monitor the quality status of suppliers, conduct audits and provide support for improvement
- Make continuous improvements to work environments and promote diverse work styles as well as health and productivity management
  - E.g., sharing our visions by management, establishing training plans for human resource who will lead the future, visualizing career paths for employees and offering attractive remuneration and benefits

### Primary Management Indicators
- Net sales for field solutions business
- Profitability of field solutions business
- Man-hours for installation and maintenance services, etc.

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### Management Resources to Be Invested
- Service support infrastructure at 83 sites located in 18 countries and regions of the world
- Service database and remote support system that utilizes AI, knowledge management etc.
- Approximately 5,000 field engineers with highly specialized and broad knowledge

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### Key Themes for Medium- to Long-term Value Creation

- Improving customer satisfaction through the provision of high-value-added services
- Maximizing service revenues through expanded sales of services such as comprehensive contract-based services
- Pursuing highly efficient and high-quality services that make full use of AI and digital technologies
Globalize Field Engineers and Strengthen Customer Responsiveness

We established our training operations center in 2019 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 SEMI (a global industry association representing the electronics manufacturing and design supply chain). The system helps us to improve the quality of the services we deliver to customers, by enabling the optimized deployment of human resources based on objectively observed information about engineers’ skills.

In fiscal 2022, field engineers who have acquired DX skills developed a diverse variety of programs for improving work efficiency and are rolling some of these programs out globally. Linked to our database of field information connected to our services, these programs allow each field information to be updated automatically, analyzed and visualized.

In fiscal 2023, we made progress with the deployment to overseas subsidiaries of engineers who had undergone training at manufacturing sites in Japan as part of our education for expert engineers for overseas subsidiaries, as we improve our ability to respond to the various technological needs of customers, we have successfully delivered sound results.

In fiscal 2024, we will increase the numbers of personnel receiving this education for expert engineers, while creating plans for providing short intensive education courses for mid-level engineers who are involved in day-to-day operations at customers’ facilities. We are also working to promote seamless communication between field engineers, development and manufacturing divisions and business units, to further strengthen our customer responsiveness.

Promotion of High-value-added Services

We have built a global support system, establishing Total Support Centers (TSCs) in Japan, the United States, China and Europe. In each TSC site, we have deployed Service CRM, which centrally manages customers’ equipment records (support/incident history) as a database through knowledge management. We strive to resolve various issues of customers by using TELeMetrics™, a remote maintenance service, and smart glasses1 with our unique functions as well as Service CRM at each TSC site.

We also provide various contract-based services for supporting the stable operation of equipment. For example, we provide a service in which our field engineers stay at customers’ manufacturing sites and maintain their equipment and a comprehensive contract-based service (TEI Service Advantage Premium) in which we offer pay-as-you-go or flat-rate maintenance services, supply maintenance/wear-out parts and repair their parts in an integrated manner.

In addition, we place emphasis on developing advanced diagnostic capabilities that utilize various equipment related data. We aim to shorten time to solve incidents and reducing variability among equipment in process performance by comparing setting values in each equipment and sensor values and analyzing causes of incidents based on data such as maintenance or parts replacement histories acquired from multiple equipment. We plan to utilize these diagnostic capabilities for traditional services and contract-based services that bill based on achievement of performance goals in the future.

For starting up equipment at customers’ sites, shortening the lead time required for the quality yield of semiconductor devices to reach the mass production level is extremely important. It also leads to the enhancement of our competitiveness as an equipment manufacturer. By focusing on utilization of equipment data and promoting DX that makes full use of AI technologies, we help to cut time for customers to introduce new products to the market and realize improvement of work efficiency by our engineers, reduction of periodic maintenance times and maximization of equipment utilization rates, etc.

To improve our service quality further, we also promote initiatives that utilize digital technologies, such as tablets, smart glasses and cloud systems in customers’ sites, in conformance to both customers’ and our security policies and rules.

Initiatives for Continuous Equipment Support

As part of our efforts to support continuous and effective utilization of customers’ equipment, we provide LEAP2, 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 in 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. Until now, equipment was replaced and older equipment was discarded. We are now able to provide a support service that extends the life cycle of equipment whose production was discontinued over 15 years ago by redesigning discontinued parts and by strengthening and restructuring our support system including repairs. Through LEAP, we support customers who have difficulty with replacement of new equipment due to restrictions on change management of equipment specifications or operations, or who hope to continue using their equipment. By reducing equipment disposal and contributing to the continuous use of equipment over a long period of time, we promote initiatives to reduce the environmental impact of our support.

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.

With the deregulation of COVID-19 in fiscal 2023, we have carefully considered the circumstances in each country and region, conducting remote training, bearing in mind the various infection control measures while also gradually restarting training in-person at training centers and at customer sites.

We are efficiently conducting training leveraging our accumulated know-how in remote learning and training videos to flexibly deal with future changes in circumstances, keeping customer safety as the priority. We are also striving in the further provision of training environments, including continuous expansion of the equipment lineup at the training centers of our overseas subsidiaries.

Chapter 3
Value Creation by the Value Chain
Our approach to sustainability is to practice our Corporate Philosophy by realizing our Vision. We identify the material issues and sustainability initiatives as necessary, and the Board of Directors supervise these initiatives.

Our Corporate Growth Is Enabled by People, and Our Employees Both Create and Fulfill Company Values

We believe that our corporate growth is enabled by people, and our employees both create and fulfill company values. Based on this approach, we provide many opportunities for employees to challenge themselves to achieve high-level goals by making the most of their individual potential. Of particular importance in our human resource management is the TEL Values, motivation-oriented management, and diversity, equity, and inclusion.

As examples of important measures, we are operating a common global job-based grading system (GTC: Global TEL Career-Paths) and clarifying career paths for Individual Contributors (ICs) (TCL: Technical Career Ladder), as well as adopting a performance management system for promoting employee growth and performance enhancement. In these and other ways, we are developing a globally competitive human resource system to create opportunities for employees to take on challenges, and actively support their career development.

Diversity, Equity and Inclusion (DE&I)

With the strong commitment of management, we actively promote DE&I as one of management pillars that leads to the continuous generation of innovation and increased corporate value. Based on the idea that “One-TEL and DIFFERENT TOGETHER with 3G (Global, Gender, Generation),” we have taken on gender, nationality and generation as major themes. Each Group company is implementing various initiatives, such as setting the following goals for the ratio of female managers based on the characteristics of each region.

Conduct a diversity-conscious talent pipeline (plan for developing human resources) for succession planning and achieve the target of increasing the ratio of female managers to 8.0% globally and 5.0% in Japan (by fiscal 2027)

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- Taking into consideration that many of our employees are engineers, we actively invest in the use of recruiters and employer branding to hire female engineers at a level that is equal to or greater than the general ratio of female engineers in each region.
- Create an organizational structure where even those from outside of Japan can take on corporate roles through the use of technology and shared global human resource systems.
- We promote collaborations between Japanese employees and employees of overseas subsidiaries, and cross-departmental projects.
- We organize events such as “DE&I Talks” and other events with external promotion leaders and external experts, create networking opportunities for employees with similar characteristics and experience, and hold roundtable discussions regarding careers before and after taking maternity/paternity leave and childcare leave.

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Chapter 3
Value Creation by the Value Chain

Diversity, Equity and Inclusion Talks (DE&I Talks)

In March 2023, we held a DE&I Talk that was streamed simultaneously online to the Group companies worldwide. As the fifth of these events held, “equity” was added to the discussion this year, with the name “DE&I Talks” being used for the first time. While there have been no significant changes to the original purpose and policy of these talks, this addition aims to more proactively pursue the development of environments where diverse employees can play active roles.

In his opening speech at the event, the CEO stated “by continually driving motivation-oriented management, while improving diversity through our 3G policy, we aim to further grow our company.”

We deepen our understanding of DE&I, with one speech titled “The Importance of Equity: World Trends D&I to DE&I” and another titled “Corporate Improving diversity through our 3G policy, we aim to further grow the company”.

Main DE&I Activities

As a global, borderless company, we are implementing various initiatives as detailed below to leverage the strengths of our diverse human resources and create well-balanced systems and teams.

We create and publish reports on the DE&I activities of all of our Group companies, including overseas subsidiaries, to make the activities of each site more visible. We also communicate internally and externally through an internal newsletter, intranet, social media and other channels.

We hold Career Design Seminars for Women employees. With voluntary attendance of about 100 employees, participants acquire basic knowledge of such things as self-leadership skills for independent career planning. Participants explore their career potential at us by learning self-centered career design and providing training aimed at increasing employee awareness of social media and other channels.

We are regularly conducting engagement surveys since fiscal 2016 to assess the current state of employee engagement and identify issues.

A competitive remuneration system based on responsibilities and employee contributions was established for all employees, even for reemploying people after reaching retirement age, to take advantage of experience, knowledge and skills learned at us.

In 2023, NPO J-Win: Japan Women’s Innovative Network was established in April 2007 as a corporate member-based organization with the aim of supporting the promotion and establishment of diversity management at companies.

Employees of a certain level at a position based on the global human resource system.

Employees have participated in NPO “Win” programs since 2021. Enabling participants to meet personal role models and foster a readiness for career advancement, by conducting activities with members of other companies in external environments that have high-level diversity, the programs help them increase willingness to take on the challenge of management positions, or senior director and above positions.

We established the Employee Resource Group (ERG) to create networking opportunities for employees with similar characteristics and experiences. Events are held on an ongoing basis, including Mommy & Daddy Talks, which are roundtable discussions regarding careers before and after taking maternity/paternity leave and childcare leave.

An LGBTQ+ helpline was established in April 2021, and a congratulations and condolences system that includes same-gender partners was adopted from October 1, 2022. The aim is to improve and expand systems and facilities going forward to ensure ongoing development of workplaces where everyone, not just the people concerned, can work with enthusiasm and energy.

New graduates and mid-career recruits are continually employed on the basis of whether they will work actively at us, regardless of gender, nationality, generation or other characteristic, by considering such aspects as their expertise, experience, and expectations for their future.

We endorse work styles that contribute to a positive work-life balance, and are continually working to create environments that facilitate this.

For example, we recommend that both mothers and fathers take advantage of our parental leave systems—one of several childcare leave systems we operate—and this has resulted in a high proportion of our employees returning to work after taking maternity/paternity leave and childcare leave. We also offer a range of work style programs, such as flextime system that allow employees to work flexible hours, and work from home system.

We incorporate user feedback to improve our programs and promote e-learning programs and providing a common platform for learning.

Empowering Employees

Improving employee engagement is essential to maximize corporate performance and achieve sustainable growth. Recognizing that employees both create and fulfill company values for us, we have been regularly conducting engagement surveys since fiscal 2016 to assess the current state and identify issues.

Based on the results of these surveys and on employee feedback, we endeavor to establish better workplace environments; at the same time, we are working to foster a better corporate culture that empowers all our employees to maximize their abilities in an open-minded environment, to engage energetically with their work and to participate in constructive discussions and exchanges of opinions. Examples of our measures include ensuring continued messages from the management, increasing opportunities for direct dialogue between management and employees on the current state of the company and its future, and providing training aimed at increasing employee awareness of safety, quality, compliance and other foundational management principles.

As a result of these initiatives, employee engagement scores improved in nearly all Group companies in Japan and overseas subsidiaries between fiscal 2016 and fiscal 2023. Our overall employee engagement score has risen by 18 points since fiscal 2016 and by 6 points since fiscal 2021, and in Japan our employee engagement score now falls within the top 25% of the overall benchmark. As our employee engagement score has risen, so our employee retention rate has reached an extremely high level, staying at 96.2% for the first time in Japan for fiscal 2023.

We believe that improving employee engagement is vital for providing increased value to our stakeholders. To this end, we intend to implement various measures in a continuous and effective manner, such as further enhancing our employees’ work-life balance, improving work efficiency through DX, and strengthening safety, quality and compliance.

Developing Human Resources

We are committed to the planned and structural development of human resources capable both of adapting to varied and continually changing business environments and of playing active roles on the global stage. We place importance on our employees’ motivation, we work to improve their value, and we operate a human resources strategy around the world aimed at ensuring that both the company and its employees can grow together.

TEL UNIVERSITY is an in-house educational institution established to foster a culture of learning within the company and to provide training tailored to the needs of individual employees. The university helps employees proactively build their careers, and realize personal growth and development.

We are also working to promote human resources development cycles at our business sites, for the managerial employees tasked with nurturing potential future leaders, we provide level-based training for various duties, with the goal of improving their skills in a practical manner.

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Global and On-demand Learning

Since all employees grow in different ways, we provide on-demand education that enables employees to learn what they want, when they want, in addition to group training, we are proactively utilizing e-learning programs and providing a common platform for learning.

Work-life Balance

Work Styles and Offices

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We incorporate user feedback to improve our programs and promote efficient work styles that cater to diverse lifestyles and social situations. We are engaged in building unprecedented new office environments that are work-friendly for all our employees and that support their endeavors.

To take one example, the Miyagi Technology Innovation Center we opened at Tokyo Electron Miyagi in 2021 features an “Innovation Area,” which is a communal space for creating new technologies, and a “Creative Office,” which is centered on a bright and open communication space.

We are also working on creating office spaces at our other sites that encourage interactions between different departments and that provide support for new innovative ideas.

Leave System

We believe that employees are more productive when they can properly manage their work hours and take leave. Accordingly, we are making efforts to properly manage their work hours and take leave. We believe that employees are more productive when they can

We have implemented a succession planning that identifies potential future leaders—with the capacity to assume key positions in the company and drive corporate value in the medium and long-term—at an early stage and nurtures them.

More specifically, the succession planning provides potential leaders with opportunities to build networks and develop broader perspectives through participation in external training and to receive 360-degree feedback.

The management, including outside directors, also hold systematic reviews and discussions concerning the assignments executed by these potential leaders. We are also working to promote human resources development cycles at our business sites, for the managerial employees tasked with nurturing potential future leaders, we provide level-based training for various duties, with the goal of improving their skills in a practical manner.

We also operate a unique “refreshment leave system” in different countries around the world, depending on the prevailing circumstances. This system aims to provide both mental and physical refreshment for employees, and so boost their motivation to work.

In Japan, employees who have worked at the company for 10 years or more are granted special, supplementary paid leave of between two weeks and one month for every five years of continuous service. In fiscal 2023, 1,733 employees in Japan and 606 employees overseas took advantage of this system.

We are also working to establish various other leave systems for different life events, including childcare leave, leave to care for a sick or injured child, childcare support leave and paid leave to provide nursing care. Employees are permitted to extend childcare leave until the child reaches three years of age, special, supplementary paid leave of between two weeks and one month for every five years of continuous service.

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We endorse work styles that contribute to a positive work-life balance, and are continually working to create environments that facilitate this.

For example, we recommend that both mothers and fathers take advantage of our parental leave systems—one of several childcare leave systems we operate—and this has resulted in a high proportion of our employees returning to work after taking maternity/paternity leave and childcare leave. We also offer a range of work style programs, such as flextime system that allows employees to work flexible hours, and work from home system.

We incorporate user feedback to improve our programs and promote efficient work styles that cater to diverse lifestyles and social situations. We are engaged in building unprecedented new office environments that are work-friendly for all our employees and that support their endeavors.

To take one example, the Miyagi Technology Innovation Center we opened at Tokyo Electron Miyagi in 2021 features an “Innovation Area,” which is a communal space for creating new technologies, and a “Creative Office,” which is centered on a bright and open communication space.

We are also working on creating office spaces at our other sites that encourage interactions between different departments and that provide support for new innovative ideas.

Leave System

We believe that employees are more productive when they can properly manage their work hours and take leave. Accordingly, we are working to eliminate long working hours, and to both enhance our leave systems and encourage employees to make use of them.
Chapter 3
Value Creation by the Value Chain

Human Rights

Approach to Human Rights
We at Tokyo Electron are conscious of our corporate social responsibility, and we recognize that it is important to conduct ourselves with a strong sense of integrity. Based on this recognition, we have firmly upheld human rights since our founding, as reflected in the spirit of our Corporate Philosophy and Management Policies. For us, respecting human rights means a significant undertaking, not only to fulfill our responsibility for eliminating adverse impacts on people caused through business activities but also to respect those people who support our business activities, and contribute to the realization of a sustainable, dream-inspiring society. We incorporate the concept of respect into every aspect of our business activities, and strive to nurture a dynamic corporate culture where each person can realize their full potential.

Revision of our Human Rights Policy and the Promotion Framework for Respect for Human Rights

In April 2023, we revised our Tokyo Electron Group Human Rights Policy in order to reflect the actual status of our initiatives, adding “Governance” and “Grievance Mechanisms” as new items and reviewing existing contents. The implementation of initiatives based on this Policy is deliberated at the Sustainability Committee, and approved at the Corporate Officers Meeting attended by the CEO. The executives in charge of sustainability report on these initiatives at the Board of Directors, with the Board undertaking supervision. We are working to disseminate this Policy not only among our executives and employees but also among our suppliers, and are providing online education about human rights.

Initiatives Which Align With the United Nations’ Guiding Principles on Business and Human Rights

Commitment to respecting human rights
Revision of Tokyo Electron Group Human Rights Policy
Awareness and implementation
Education

Assessment of human rights risks in business and supply chains
Human rights risk assessment
Human rights impact assessment

Actions to reduce risks based on assessment results
Feedback sheet publication
Program development and review according to issues

Regular disclosure of information
Publication of the Integrated Report
Postings on the website

Promoting Human Rights Due Diligence
We conduct human rights due diligence annually to identify human rights risks and develop corrective actions. In fiscal 2023, we conducted a survey based on RBA auditing standards of 12 Group companies in Japan and overseas and approximately 680 suppliers involved in materials, staffing, customs services, packaging, etc.

Consequently, potential/actual risks were found in 17% of our Group companies and 56% of suppliers, with labor- and health- and safety-related risks comprising the majority of the risk breakdown. We conduct analysis of each of these identified risks and provide individual feedback to each of our Group sites and suppliers, requesting to discuss the impact of these risks and conduct corrective actions to reduce them, while we confirm the progress and effectiveness of such corrective actions through periodic monitoring. These corrective actions include formulating policies and procedures of various kinds, providing employees with notifications and explanations of employment terms, reinforcing management of working hours, implementing evacuation drills, and reviewing existing contents.

Number and Percentages of Conformance and Potential/Actual Risks (Priority/Major/Minor)

Grievance Mechanism

We recognize the importance of having highly effective grievance mechanisms related to human rights issues and have established a reporting system with a high level of confidentiality for Group employees and our suppliers and all other stakeholders in Japan and overseas. We have established and are operating an internal point of contact that can be accessed 24 hours a day, 365 days a year and accommodates multiple languages, as well as an external point of contact that allows direct consultation with an outside law firm. Through these measures, we have developed grievance mechanisms that are able to deal reliably with grievances which could have negative impacts on human rights.

Going forward, we will proactively roll out human rights-related initiatives based on a high level of ethics, and will continue working to mitigate human rights risks and address grievances within ourselves and across the supply chain.

Compliance

To practice our Corporate Philosophy, it is vital that each employee performs their daily duties with strong interest in and a deep understanding of compliance. We established "Tokyo Electron Group Code of Ethics" as a code of conduct to ensure that our employees are aware of the risks around them and conduct themselves appropriately. We have built a global system that can directly raise questions and concerns about compliance and business ethics to quickly address potential problems.
Compliance System

In order to effectively promote a compliance program that is expected of a global company, we have appointed a Chief Compliance Officer (CCO) and established a dedicated Compliance Department at our headquarters. We have also appointed Regional Compliance Heads at key overseas sites, and have established a framework for direct reporting to the CCO and Compliance Department.

Compliance Initiatives

Business Ethics and Compliance

We have formulated “Tokyo Electron Group Code of Ethics” as a code of conduct for all executives and employees and established the Business Ethics Committee, and are working to promote business ethics and compliance more effectively and ensure that these permeate the entire Group. We have set up the Disciplinary Committee as a subordinate organization of the Business Ethics Committee to ensure the implementation of reasonable and appropriate disciplinary action and proper procedures. In addition, through regular meetings with each of the Group companies, we discuss and implement measures to promote compliance.

We have also set up an award system for employees who have engaged in particularly excellent activities relating to business ethics and compliance, to raise awareness within the Group and foster a compliance-oriented culture.

Initiatives for Anti-bribery and Corruption and for Competition Laws

We have globally established the Basic Policy on the Prevention of Bribery and Corruption and the Guidelines for Gift, Hospitality and Entertainment in the area of anti-bribery and corruption, and the Basic Policy on Competition Law Compliance and Guidelines in the area of competition law. In order to promote these policies, we regularly provide training to promote understanding of these Policies and Guidelines and ensure their permeation throughout the entire Group.

Internal Reporting System

We have established an internal reporting system that ensures complete confidentiality, anonymity and the prohibition of retribution and unfavorable treatment, so that employees can safely and in peace of mind provide information and seek redress outside the chain of command. In order to promote this behavior that is, or may be, in violation of laws, regulations or business ethics. In addition, the introduction of an internal reporting system allows any disciplinary action to be reduced or exempted in the event that the employee involved in a compliance violation has a report or sought advice on their own volition, is encouraging employees outside the chain of command about behavior that is, or may be, in violation of laws, regulations or business ethics.

Breakdown of Report/Consultation Contents

- Requests for human resources consultation
- Requests for improving operations
- Request for investigation/Correction and Preventative Action

Sustainability Operations

To keep track of our suppliers’ engagement in sustainability, we conduct an annual sustainability assessment in areas such as labor, health and safety, the environment and ethics since fiscal 2014. We analyze the assessment results, provide feedback to suppliers and ask them to carry out any improvement activities required. In fiscal 2019, we completely revised the content of the assessment based on audit standards stipulated by the RBA, and in addition to materials suppliers, included staffing service and logistics suppliers in the scope of surveys.

In fiscal 2023, we held Tokyo Electron Technology Solutions (Yamashita), one of our main manufacturing sites in Japan, under RBA auditing, and have carried out the necessary remediation activities together with our suppliers. Going forward, we will further promote compliance with industry codes of conduct through having our other major manufacturing sites undergo similar auditing, including those located overseas, and expand sustainability initiatives throughout the supply chain.

To ensure that all people in our supply chain can work of their own free will, we have expressly stipulated our zero-tolerance policy for forced labor and bonded labor, and have communicated this to our major suppliers.

Require Supervisors to monitor and analyze their responses to provide them with feedback so that they can promote improvements in areas of concern.

Procurement BCP

As part of our business continuity plans (BCPs), we collaborate with suppliers on ongoing disaster preparation. We maintain a database of communication with diverse suppliers, including materials suppliers, and poor working conditions, as our corporate social responsibility. Our resolve goal is to eliminate the use of raw materials made from these conflict minerals, as well as any parts or components containing them. In alignment with this way of thinking, we conduct surveys on potential conflict minerals using the CMRT and referring to the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. In fiscal 2023, we conducted our ninth annual survey on potential conflict minerals. As a result, we were able to identify 234 smelters conformant with RMAP (one of the standards used for determining that minerals are not connected with conflict). In addition, none of the materials we procured were found to contain 3TG involved in conflict.

Responsibility of Procurers of Minerals (Conflict Minerals)

We see taking action against conflict minerals (3TG) obtained through illegal exploitation, which lead to human rights violations and poor working conditions, as our corporate social responsibility. Our resolve goal is to eliminate the use of raw materials made from these conflict minerals, as well as any parts or components containing them. In alignment with this way of thinking, we conduct surveys on potential conflict minerals using the CMRT and referring to the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. In fiscal 2023, we conducted our ninth annual survey on potential conflict minerals. As a result, we were able to identify 234 smelters conformant with RMAP (one of the standards used for determining that minerals are not connected with conflict). In addition, none of the materials we procured were found to contain 3TG involved in conflict.

Supply Chain Sustainability Process

Plan

Implementation of supply chain sustainability assessment and actions of response

Check

Do Notification of requests to our suppliers and appeal for sustainability activities

Act

Provision of feedback based on the results and requests for improvements to suppliers
Chapter 3
Value Creation by the Value Chain

Environment

E-COMPASS

As an industry leader in the domain of environmental management, we are rolling out E-COMPASS (Environmental Co-Creation by Material, Process and Subcomponent Solutions), our environment-focused initiative. Through E-COMPASS, we will work together with our customers and partner companies to preserve the global environment by promoting technological innovation and aiming to reduce the environmental impact of semiconductors throughout the entire supply chain, centering on the three following perspectives:

• Pursuing higher performance and lower power consumption in semiconductors
• Achieving both the process performance and environmental performance of equipment
• Reduction of CO2 emissions in all business activities

Environmental Management System

Environmental measures are growing even more crucial. We have established the Environment Promotion Department at our headquarters, headed by a corporate director in charge of the environment, which oversees multiple meetings to promote efforts to address medium- to long-term environmental issues across the entire Group. We also issue reports on the state of progress of these initiatives to management, including the CEO, through the framework of conferences set out in the following table. In accordance with the ISO 14001 certification that the entire Group (mainly our manufacturing subsidiaries) obtained in March 2017, we have identified environmental impact assessments and useful environmental aspects within this standard, and are executing a standardized group format for environmental management programs and internal audit checklists. To enable compliance with the environmental laws and regulations of various countries, which are frequently revised, we are making efforts to gather information at earlier stages and taking a proactive stance towards compliance. We were once again free from environmental incidents, violations and legal proceedings in fiscal 2023.

Conference Name | Main Participants | Function | Meeting Frequency
--- | --- | --- | ---
Council for the Regular Reporting of Environmental Activities | CEO, corporate director in charge of the environment | Report on matters discussed at the Global Environment Council and the TEL Corporate Environment Council and review items for approval | Quarterly
Manufacturing Companies Presidents' Council | Corporate director in charge of the environment, etc. | Monitor and supervise progress related to environmental issues | Quarterly
TEL Corporate Environment Council | The CEs in charge of the environment and vice presidents of department, etc. | The promotion of environmental activities across the entire Group, set company-wide goals | Appropriately
Global Environment Council | Appointed members by the executives at headquarters and the Group companies | Set individual goals related to environmental issues, monitor progress, work to achieve our goals | Twice annually

CO2 Emissions across the Value Chain

Based on our environmental slogan “Technology for Eco Life,” we aim to resolve environmental problems through leading technology and reliable services, understand the environmental impact generated throughout our entire value chain and promote business activities to reduce that impact.

Our total CO2 emissions of Scope 1 and Scope 2 is 42 kilotons, while Scope 3 as the sum of upstream and downstream activities accounts for a total of 14,333 kilotons, 99.7% of the total. Of this, CO2 emissions when using products stand at 9,854 kilotons, about 70% of the total. This is why we consider the development of products with low CO2 emissions during operation to be important. In fiscal 2023, we also revised our calculation method for emissions resulting from the use of products and services we have purchased and products we have sold, in order to calculate our Scope 3 emissions with greater accuracy.

Medium- and Long-term Environmental Goals and State of Progress

We have set the following medium- and long-term environmental goals.

Table: Medium and Long-term Environmental Goals and State of Progress

<table>
<thead>
<tr>
<th>Category</th>
<th>Goal Achieved</th>
<th>(Base year)</th>
<th>(Fiscal 2023)</th>
<th>(Fiscal 2041)</th>
<th>(Fiscal 2051)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2 emissions not from our Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 1: Purchased goods and services</td>
<td>Bulk goods: 4,053 kilotons</td>
<td>42 kilotons</td>
<td>42 kilotons</td>
<td>42 kilotons</td>
<td>42 kilotons</td>
</tr>
<tr>
<td>Category 2: Capital goods</td>
<td>Fuel- and energy-related activities: 224 kilotons</td>
<td>27 kilotons</td>
<td>27 kilotons</td>
<td>27 kilotons</td>
<td>27 kilotons</td>
</tr>
<tr>
<td>Category 3: Other activities</td>
<td>Emission from use of fuel and gas we procured or controlled</td>
<td>174 kilotons</td>
<td>60 kilotons</td>
<td>91 kilotons</td>
<td>100 kilotons</td>
</tr>
</tbody>
</table>

Initiatives Concerning Own Emissions (Scope 1 and 2)

We aim to achieve a rate of 100% renewable energy usage and reduce total CO2 emissions at plants and offices by 70% by fiscal 2031 (compared to fiscal 2019), and net zero by fiscal 2041. The company-wide rate of renewable energy usage was 91% in fiscal 2023. As a result of this, and assisted also by energy-saving activities, we have reduced total CO2 emissions from our plants and offices by 76%, enabling us to reach our target ahead of schedule.
We aim to reduce per-wafer CO2 emissions by 30% by fiscal 2031 and zero by 2051. In fiscal 2023, per-wafer CO2 emissions had been reduced by 20.8% compared to the baseline period.

CO2 Emissions Reductions of Products (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>Baseline</th>
<th>2023</th>
<th>2023.3</th>
<th>2023.3</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td></td>
<td>4.6</td>
<td>10.7</td>
<td>20.8</td>
<td>30</td>
</tr>
</tbody>
</table>

* SBT: Science Based Targets. The Paris Agreement aims to limit global warming to well below 2°C, preferably to 1.5°C, compared to pre-industrial levels. SBT is an international initiative to quantify greenhouse gas emission reduction targets set by companies for the next 5 to 15 years, consistent with 2015 levels required by the Paris Agreement.

Logistics Initiatives

In fiscal 2023, we proactively made progress with the adoption of reinforced corrugated cardboard packaging and with bringing about modal shifts in transportation. Reinforced corrugated cardboard is lighter in weight, which is expected to reduce CO2 emissions during transportation. It is also recyclable and has a lower environmental impact than wood. By the fourth quarter of fiscal 2023, the switchover rate (from wooden crates to reinforced corrugated cardboard) stood at 20.3%. In addition, CO2 emissions from logistics were reduced by 19.4% as a result of modal shifts.

Biodiversity and Forest Conservation

In fiscal 2023, we formulated the following commitments to biodiversity and forest conservation.

Biodiversity and Forest Conservation Commitments
- The benefits of biodiversity are essential for the sustainable development of society. However, human society’s activities are having a major impact on biodiversity. Through "TEL’s Shared Value," we are working to resolve social issues through business activities that make use of our expertise. We aim to realize "Net Positive Impact (NPI)" across our entire value chain through ongoing initiatives to preserve biodiversity. We believe that promoting activities in partnership with our stakeholders will help to boost our corporate value in an ongoing manner. As part of these efforts, we aim to achieve zero deforestation through working proactively to protect forests, which are home to ecosystems comprising numerous organisms and which constitute important CO2 sinks.

Initiatives with Suppliers

As part of our E-COMPASS initiatives, we held a briefing session with all of our materials suppliers in March 2022, based on the notion that reinforcing our partnerships with our suppliers is key to the preservation of the global environment and to the “data-driven society” which will be a growing reality in the years ahead. At this briefing session, we informed our suppliers of the status of our initiatives, and shared measures for mutual growth through co-creation with them as partners. We also conducted the “E-COMPASS Survey” to confirm matters including the state of suppliers’ environmental performance, trends in semiconductor equipment development, suppliers’ activities for reducing the environmental burden of their operations, and the status of their products’ compliance with environmental laws and regulations. In December, we awarded three of our suppliers the status of “Environmental Partners” at TEL Partners’ Day, in recognition of their tremendous cooperation with (including greatly increased usage of fibers between Osaka and Fukusuka) and joint delivery.

In January 2022, we committed to our greenhouse gas emission reduction goals under the SBT initiative, and issued an application for our Scope 1, 2, and 3 goals in February 2023. We plan to receive certification of our goals in fiscal 2024. We will continue to work on company-wide initiatives aimed at achieving our long-term environmental goals by fiscal 2031.

Initiatives for Product Development

We are working proactively on the development of products with reduced environmental impact. In fiscal 2023, we released several types of equipment with superb environmental performances which utilize our technology, including Ulucus™ L, a laser edge trimming system which reduces dosimeter water (DMW) consumption, dust generation and wastewater generation, and CELLESTA™ MIS2, a single wafer cleaning system which reduces utility usage during processing while ensuring high productivity.

We are reducing CO2 emissions in all of our business activities
- With our semiconductor production equipment technology, we are contributing to enhancing the performance and lowering the power consumption of semiconductor devices being used around the world.
- We are achieving achievements in both process performance and environmental performance for semiconductor production equipment.
- We are reducing CO2 emissions in all of our business activities
- Initiatives for our medium- and long-term environmental goals

<table>
<thead>
<tr>
<th>Initiatives Related to Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Items</strong></td>
</tr>
<tr>
<td><strong>Contents</strong></td>
</tr>
<tr>
<td><strong>Governance</strong></td>
</tr>
<tr>
<td>- We have established the Environment Promotion Department and the Corporate Sustainability Management Department at our headquarters, and are pursuing initiatives for the TCFD under the entire Group</td>
</tr>
<tr>
<td>- Our responses to climate-related risks and opportunities and progress towards our goals have been deliberated at the Sustainability Committee, and approved at the Corporate Officers Meeting attended by the CEO</td>
</tr>
<tr>
<td>- The executive officers in charge of the environment and sustainability issues report on these initiatives to the Board of Directors, with the Board undertaking supervision</td>
</tr>
<tr>
<td>- At the Global Environmental Council, comprised of members appointed by executives of the headquarters and Group companies, goals are set, progress is monitored, and the achievement of these goals is promoted</td>
</tr>
<tr>
<td><strong>Strategy</strong></td>
</tr>
<tr>
<td>- We are conducting analysis that takes into account the following points in order to identify medium- to long-term risks and opportunities that climate change poses for our business</td>
</tr>
<tr>
<td>- Location of plants and offices</td>
</tr>
<tr>
<td>- Occurrence of natural disasters caused by climate change and status of damages</td>
</tr>
<tr>
<td>- Demands from customers, investors, NGOs and local communities</td>
</tr>
<tr>
<td>- Government policies and regulations and taxation</td>
</tr>
<tr>
<td>- Technological trends relating to renewable energy and energy saving</td>
</tr>
<tr>
<td>- Climate change scenarios predicted by external agencies and research results</td>
</tr>
<tr>
<td>- Under the 1.5°C scenario, we identified transition risks including rising energy costs associated with fuel and energy taxes, and under the 4°C scenario we identified physical risks such as the impact of abnormal weather. On the opportunity side, we identified advanced initiatives to address climate change through technological development</td>
</tr>
<tr>
<td>- In response to these risks and opportunities, we are implementing the findings from our scenario analyses into our business strategies and are undertaking initiatives aimed at reducing greenhouse gas emissions across the entire supply chain and achieving our medium- and long-term environmental goals, through introducing renewable energy and providing innovative manufacturing technologies that will contribute to lower power consumption in electronic products. We will increase our residence (responsiveness to climate change) as a company by periodically reviewing the identified risks and opportunities and our responses thereto</td>
</tr>
<tr>
<td><strong>Risk Management</strong></td>
</tr>
<tr>
<td>- We have utilized enterprise risk management to identify a wide range of risks arising in business activities, and have classified “Environmental issues” including climate change as a key risk having high impact and probability of manifestation, and developed initiatives related to this risk</td>
</tr>
<tr>
<td>- We have formulated and executed measures to minimize the risks of these “Environmental issues,” and are monitoring the effect of said measures, working to understand the status of risk control and implementing the PDCA cycle for management</td>
</tr>
<tr>
<td>- Short-, medium- and long-term company-wide risk management initiatives that are recommended by relevant divisions and councils are being undertaken at the facilities and divisions of the Group companies, after approval by the Manufacturing Companies Presidents’ Council, which includes the corporate director in charge of the environment</td>
</tr>
<tr>
<td>- For Scope 1 and 2 CO2 emissions, in addition to implementing measures to reduce CO2 emissions at our key manufacturing sites in Japan with high emissions, we are pursuing the adoption of renewable energy on a global scale</td>
</tr>
<tr>
<td>- For Scope 3 emissions, we are focusing on the development of a data-driven society and reducing CO2 emissions in our suppliers’ operations, based on recognition of the importance of providing products that generate lower CO2 emissions because about 70% of the emissions in our entire value chain are generated during use of products after sale</td>
</tr>
<tr>
<td>- We have formulated BOs in anticipation of natural disasters caused by abnormal weather and other factors, and are working with our suppliers to implement measures to ensure that business operations can be maintained. We have conducted analysis of the risk of natural disasters at our key manufacturing sites in Japan, and confirmed such risks are to be low</td>
</tr>
<tr>
<td><strong>Metrics and Targets</strong></td>
</tr>
<tr>
<td>- We are pursuing E-COMPASS initiatives to help develop a data-driven society and preserve the global environment across the entire supply chain</td>
</tr>
<tr>
<td>- With our semiconductor production equipment technology, we are contributing to enhancing the performance and lowering the power consumption of semiconductor devices being used around the world</td>
</tr>
<tr>
<td>- We are achieving achievements in both process performance and environmental performance for semiconductor production equipment</td>
</tr>
<tr>
<td>- We are reducing CO2 emissions in all of our business activities</td>
</tr>
</tbody>
</table>

* NPI: When loss of the natural environment cannot be avoided and the decision is instead taken to generate gains for the natural environment to offset the losses, ensuring that losses and gains are balanced |
* SBT: Science Based Targets. The Paris Agreement aims to limit global warming to well below 2°C, preferably to 1.5°C, compared to pre-industrial levels. SBT is an international initiative to quantify greenhouse gas emission reduction targets set by companies for the next 5 to 15 years, consistent with 2015 levels required by the Paris Agreement |

Refer to “Environment” on our website for details: www.tel.com/sustainability/management-foundation/environment/index.html |
<table>
<thead>
<tr>
<th>Risk</th>
<th>Impact on Tokyo Electron</th>
<th>Our Response</th>
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</thead>
<tbody>
<tr>
<td>Carbon tax</td>
<td></td>
<td></td>
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<tr>
<td>and other energy costs</td>
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<tr>
<td>Assumptions on greenhouse gas (GHG) emissions and renewable energy usage levels remained at the levels of fiscal 2023, the carbon tax burden would rise as follows: Fiscal 2024: Increase of 17 billion yen; Fiscal 2026: Increase of 26.65 billion yen for Fiscal 2026 compared to the amounts originally estimated in fiscal 2023.</td>
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<tr>
<td>Carbon tax</td>
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<tr>
<td>Cost</td>
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<tr>
<td>Increased procurement costs</td>
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<tr>
<td>Increased insurance premiums</td>
<td></td>
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<tr>
<td>Increased net sales</td>
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<tr>
<td>Increased capital investment</td>
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<td>Decreased net if sales are unable to meet customer requirements and demands</td>
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<td>Legal proceedings and fines if regulations are violated</td>
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<tr>
<td>Risk</td>
<td>Impact on Tokyo Electron</td>
<td>Our Response</td>
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<tr>
<td>Threats</td>
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<tr>
<td>Positions to respond to environmental change and environmental laws and regulations</td>
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<tr>
<td>Increased energy costs</td>
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<td>Low~High</td>
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<td>High</td>
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<td>Mid-term</td>
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<td>Long-term</td>
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<tr>
<td>Risk</td>
<td>Impact on Tokyo Electron</td>
<td>Our Response</td>
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<tr>
<td>Physical Risks (4°C scenarios)</td>
<td></td>
<td></td>
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<tr>
<td>Abnormal weather</td>
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<tr>
<td>Impacts on our customers and our operations</td>
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<tr>
<td>Affected equipment, products and other factors</td>
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<tr>
<td>Increased energy costs</td>
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<td>Mid-term</td>
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<td>Long-term</td>
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<tr>
<td>Risk</td>
<td>Impact on Tokyo Electron</td>
<td>Our Response</td>
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<td>Threats</td>
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<tr>
<td>Higher temperatures</td>
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<tr>
<td>Medium- to long-term</td>
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<tr>
<td>Increased usage of air conditioning and fans in clean rooms and other areas</td>
<td></td>
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<tr>
<td>Increased energy costs</td>
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<td>Mid-term</td>
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<tr>
<td>Long-term</td>
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<tr>
<td>Risk</td>
<td>Impact on Tokyo Electron</td>
<td>Our Response</td>
</tr>
<tr>
<td>Opportunities (Common)</td>
<td></td>
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<tr>
<td>Improved operational efficiency</td>
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<td>Medium- to long-term</td>
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<td>Higher productivity</td>
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<tr>
<td>Reduced energy costs</td>
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Continuous Improvement of Business Operations and Creation of New Values

Initiatives of Digital Transformation (DX)

Based on the idea that DX initiatives are a means and an opportunity to achieve the management vision and the company management plan and to create corporate value, in January 2021, we formulated the TEL DX Vision and the TEL DX Grand Design. The main purpose of DX initiatives is to digitally accelerate and strengthen the key management measures of the "four material issues," with product transform and business transform as the main activities. In product transform, we will solve high-level issues while repeating the processes of (1) Recognition (sensing and monitoring), (2) Analysis and prediction, (3) Control and (4) Learning and evolution (autonomous), and we will strive to improve customer value. In addition, in business transform, we will grasp the current state of internal business, as well as envision how work should be like and change the way we use digital tools and our business methods to improve the company’s capital efficiency. At the same time, we are promoting the use of digital technology in our management foundation and business support departments, which are necessary to carry out these activities.

In addition, we will define the human resources necessary for promoting DX (DX engineers), design a training plan for each necessary skill and activity, and work on this training. Furthermore, we are not only training DX engineers but also employees that can use this data in their everyday work.

In May 2022, the headquarters has been recognized as a DX-certified business operator under the Digital Transformation (DX) Certification initiative established by the Ministry of Economy, Trade, and Industry.

Overview of the New Enterprise System

We are implementing a new enterprise system (ERP) to further improve productivity and quality. This system is operated across business and country boundaries, to (1) significantly improve operational efficiency, (2) make management decisions that respond quickly to changes and (3) create new value by utilizing globally integrated information with an eye toward overall digital transformation.

We have completed the implementation of this system at the headquarters in fiscal 2022 and at the spare parts warehouse in Japan in fiscal 2023. Going forward, we will make maximum use of the knowledge we have gained through the process so far, and will proceed with the implementation of the system to our overseas subsidiaries and manufacturing sites in Japan. In addition, we will work with our partner companies to realize a globally integrated system by developing functions and others to improve operations, increase efficiency and further enhance system performance.

* ERP: Enterprise Resource Planning, a system that integrates the core business operations of an enterprise, such as accounting, procurement, production, logistics, and sales, in a better efficiency and presented information.

Approach to Quality

We define our approach to quality in the following way. The Tokyo Electron Group seeks to provide the highest-quality products and services. This pursuit of quality begins at development and continues through all manufacturing, installation, maintenance, sales and support processes. Our employees must work to deliver quality products, quality services and innovative solutions that enable customer success. We have established the Quality Policy as follows and are striving to practice this policy.

Qualities for Quality Improvement

In order for each employee to correctly understand and practice quality assurance activities, it is important to clearly define the goals to be achieved, and to create an environment and foster a culture in which those goals are widely understood. From the ideal form, we established “Our Approach to Quality” and “Quality Policy” and communicate the importance of quality to our employees at various opportunities to increase their quality awareness. We are establishing rules for what has to be done in quality assurance activities as well as correctly implementing those rules. In addition, to ensure that our employees are always aware of their roles and purposes and perform their work, we are striving to make the rules comprehensive, reassuring and deploy our quality education from time to time and visualize appropriate quality information.

Through these initiatives, employees thoroughly confirm each other’s quality on various situations, leading to improvement and growth of business processes. We are striving to provide high-quality products and services that exceed customer expectations.

Each manufacturing site builds a quality management system based on the TM and the TG. In addition to attaining ISO 9001:2015, the international standard for quality management systems, we are striving for continuous improvement by efficiently operating the PDCA cycle through repeated internal audits and third-party organization audits. The Quality Assurance Division, centered in the headquarters, sets quality goals every year based on the results of the previous term, and regularly reviews the progress of achievement of those goals.

In addition, by implementing self-process assurance, we conduct strict quality-related risk management and development/design inspections from the development stage, and strive to thoroughly verify customers’ operations using simulations. Through this self-process assurance activity, we work to improve the accuracy of each process and reduce the reworking costs*, which enables employees to create time to focus on high-value-added work in the upstream processes and also leads to the promotion of “Shift Left” (front-loading).

* Reworking costs incurred by giving up the chain of process and reworking when there is non-conformity

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Changes in Corporate Governance (Since CY1998)

<table>
<thead>
<tr>
<th>Year</th>
<th>Outside Directors (Natl)</th>
<th>Outsiders make up majorities in the Nomination Committee and Compensation Committee, including their respective chairpersons.</th>
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Board of Directors

- Three outside directors and three inside directors
- Audit & Supervisory Board member and corporate officers also attend, to share opinions and give reports
- Chairperson
- Inside director (non-executive)
- Number of Meetings: 11 in fiscal 2023

Composition

- Three outside directors and three inside directors
- Chairperson: Outside Director
- Number of Meetings: 11 in fiscal 2023
- Deliberation Topics:
  - Appointment and dismissal of corporate directors and the CEO, candidates of independent outside directors, status of succession development, other topics

Committees on the Executive Side

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<tr>
<th>Committee Name</th>
<th>Main Composition</th>
<th>Purpose</th>
<th>Meeting Frequency</th>
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<tr>
<td>Business Ethics Committee</td>
<td>Executive officers in charge Division general managers, Presidents of relevant companies</td>
<td>Verifies the status of practice in accordance with the Code of Ethics</td>
<td>Twice annually</td>
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<td>Sustainability Committee</td>
<td>Executive officers in charge Division general managers, Presidents of relevant companies</td>
<td>Considers and formulates sustainability-related policies, Sets and manages sustainability goals, implements company-wide projects (the environment, human rights, RBA, etc.)</td>
<td>Twice annually</td>
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<tr>
<td>Risk Management Committee</td>
<td>Executive officers in charge Risk owners of individual risks, Presidents of relevant companies</td>
<td>Performs and shares information on company-wide risk management, establishes systems and mechanisms to investigate and counter risk scenarios for individual risk items in collaboration with risk owners</td>
<td>Twice annually</td>
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<tr>
<td>Information Security Committee</td>
<td>Executive officers in charge Officers in charge at relevant companies</td>
<td>Spreads awareness of information security strategies and policies, Shares information on information security planning and the current situation</td>
<td>Twice annually</td>
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<tr>
<td>Export Trade Control Committee</td>
<td>Executive officers in charge Presidents of relevant companies</td>
<td>Promotes export compliance activities</td>
<td>Annually</td>
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About Corporate Officers

As a leading company in the semiconductor production equipment industry, where technological innovation is rapid and market changes are active, we introduced our unique Corporate Officer system in June 2022 to further strengthen governance and implement quick decision-making and agile operational execution. Corporate officers are the highest-level officers on the executive side within the Group, unlike executive officers, who have responsibility for particular areas; corporate officers have responsibility for the management of the entire company, taking the same perspective as the CEO. Corporate officers are the highest-level officers on the executive side within the Group; unlike executive officers, who have responsibility for particular areas, are the highest-level officers on the executive side within the Group; they make strategic decisions and are responsible for the management of the entire company, taking the same perspective as the CEO. Corporate officers have responsibility for the management of the entire company, taking the same perspective as the CEO. Corporate officers have responsibility for the management of the entire company, taking the same perspective as the CEO.

Corporate Officers Meeting

We have also established the Corporate Officers Meeting, the highest-ranking decision-making body on the executive side of the Group. Corporate Officers Meeting sessions are held once a month as a basic principle, with inside directors and inside-Audit & Supervisory Board members. In addition to the general meeting, the corporate officers, at the sessions, participate to help ensure agile operational execution by deliberating and making decisions on key items on the executive side, including those for which an executive officer has been delegated from the Board of Directors to the executive side.

Highest position on the executive side within the Group

Has responsibility not only over their own scope of execution but over the execution of management of the entire company, taking the same perspective as the CEO.

Members of the Corporate Officers Meeting

Promote the appropriate delegation of responsibility to the executive side from the Board of Directors, to ensure prompt decision-making and agile operational execution.

Attendance at Board of Directors meetings (without voting rights)

Utilizing the contents discussed at the Board of Directors meetings for appropriate and speedy operational execution, to ensure that the Board of Directors can fully support the executive side in an appropriate manner. This discussion at the Board of Directors meetings can be put to use appropriately and speedily in operational execution.

Main Topics for the Board of Directors and Off-site Meetings

CEO

• Reports on status of business execution by CEO (each meeting)
• Sharing of CEO missions

Medium- to Long-term Growth Strategies

• Market environment over the medium to long term and our direction
• Medium-term Management Plan and future growth strategies
• Financial strategies/capital policy/human resources strategy
• Business portfolio (reorganization of new DSS BU)
• Mergers with Group companies
• Expansion and reinforcement of development and production facilities in Japan and overseas
• Innovation operations

Risk/Compliance

• Improvement of risk management processes
• Legal affairs and compliance/Information security
• Procurement risks
• Declarations of Partnership Building

Governance

• Reports on sustainability
• Measures for diversity
• Reports on investment in human capital and intellectual property activities
• Reports on external audits
• Status of investment targets and cross-shareholdings
• Status of IR activities
• Status of the activities of the Nomination Committee and Compensation Committee
• Status of progress of successor development plan
• Closed session evaluation of representative directors (members of the Board of Directors excluding the representative directors)

Off-site Meetings

In addition to the Board of Directors meetings, off-site meetings have been held on two occasions (September 2022 and March 2023), where medium- and long-term growth strategies, financial strategies, capital policy and human resource strategies have been discussed. In March, members also undertook an observation of the Miyake Technology Innovation Center and other sites at Tokyo Electron Miyake, where they developed a deeper understanding of the operations while engaging in dialogue with employees on-site.

Establishment of the Director Compensation System

Basic Policy on Director Compensation

The TEL Group emphasizes the following points in its basic policies on compensation for corporate directors and Audit & Supervisory Board members.

1. Levels and plans for compensation to secure highly competent management personnel with global competitiveness
2. High linkage with business performance in the short term and medium- and long-term increase of corporate value aimed at sustainable growth
3. Securement of transparency and fairness in the decision process of compensation and appropriateness of compensation

Compensation Structure

Among corporate directors, compensation for inside directors consists of “fixed basic compensation,” “annual performance-linked compensation” and “medium-term performance-linked compensation.” Compensation for outside directors consists of “fixed basic compensation” and “non-performance-linked compensation (stock-based compensation).”

Type of Compensation

Overview of Compensation

Fixed Basic Compensation

Cash Bonuses

Stock Compensation-based Stock Options

Annual Performance-linked Compensation

Performance Shares (Stock-based Compensation)

Restricted Stock Units (Stock-based Compensation)

Calculation Method for Medium-term Performance-linked Compensation

Consolidated operating margin

TOKYO ELECTRON Integrated Report 2023

TOKYO ELECTRON Integrated Report 2023
Chapter 3
Value Creation by the Value Chain

Evaluating the Effectiveness of the Board of Directors

Overview of Evaluations of Effectiveness

To further enhance our governance and the effectiveness of the Board of Directors, we have conducted annual evaluations of the effectiveness of the Board since fiscal 2016 and have disclosed summaries of the results. Since fiscal 2019, we have used external experts as a third-party organization to verify the status of initiatives relating to issues identified in the preceding fiscal year, identify future issues and work toward continuous improvement.

Evaluation of the Effectiveness of the Board of Directors for Fiscal 2023

Scope of Evaluation

Board of Directors overall (including details of the activities of the Nomination Committee and Compensation Committee)

Process

Survey administered to all corporate directors, Audit & Supervisory Board members and corporate officers

Interviews of all corporate directors, Audit & Supervisory Board members and corporate officers by external experts

Report by external experts

Meetings for exchanges of opinions between directors and outside Audit & Supervisory Board members

Deliberations at internal meetings

Discussion and self-evaluation by the Board of Directors

Evaluation Items

The main evaluation items for evaluating effectiveness are as follows.

1. Overall evaluation
2. Composition of the Board of Directors
3. Preparation in advance of Board of Directors’ Meetings
4. Board of Directors operations
5. Deliberations by the Board of Directors
6. Roles and operational status of the Nomination Committee and Compensation Committee
7. Roles of Audit & Supervisory Board members
8. Corporate Officer system
9. Review of the Chairman’s deliberations

Initiatives for Issues Identified in Evaluations of Effectiveness in the Previous Fiscal Year

1. Clarification of roles and decision-making authority between the executive side and the Board of Directors

2. Introduce a Corporate Officer system, and establish Corporate Officers Meetings

3. Review the criteria for resolutions of the Board of Directors, and delegate a portion of the matters to be resolved to the Corporate Officers Meeting

4. Corporate officers attend every meeting of the Board of Directors, and give briefings on the contents of any deliberations at the Corporate Officers Meeting and important matters related to the execution of business operations

5. All off-site meetings, conduct a review following the introduction of the Corporate Officer system and confirm the issues to be considered going forward

6. Continuous deliberations to extend medium to long-term growth and ongoing improvements to corporate value

Directors on the medium to long-term growth strategies, including the progress of the Medium-term Management Plan

Hold off-site meetings on two occasions, with discussions of key measures for accomplishing the Medium-term Management Plan and their roadmaps, as well as topics of importance, including strategies such as diversity and other human resources strategies, capital policy, and risk management

Have BUGMs (Business Unit General Managers) attend the off-site meetings, and exchange opinions with outside directors and outside Audit & Supervisory Board members on the status of operations executed with a view to achieving medium-to-long term growth strategies

Have information be shared between members of the Board of Directors, and discretionary committees

Have the Nomination Committee report to the Board of Directors regarding the status of its specific activities, including the progress of discussions regarding the succession plan and how to proceed going forward

Hold meetings outside of the Board of Directors to exchange information between the Chairman of the Board of Directors and outside directors and outside Audit & Supervisory Board members

Overview of Fiscal 2023 Evaluation Results

The Company’s Board of Directors believes that the Board of Directors is very effectively ensuring that the key roles and obligations of the Board of Directors are being fulfilled, and that the Board, including the Nomination Committee and the Compensation Committee are functioning effectively. The results of the analyses and evaluations performed by the external experts also confirmed that the Company’s Board of Directors is functioning effectively, supported by its strengths such as “non-hierarchical, open and natural discussion,” “agile execution,” and “drive in execution and unity of the management.”

On the other hand, based on the analysis and evaluation results of external experts, the Board of Directors shared the intention to further enhance strategic discussions with a view to the future business environment from a longer term perspective as the importance of semiconductors increases.

Future Initiatives

Aiming to become the top company globally in the medium to long term we will continue to work on each of the following matters to further strengthen the supervisory function of the Board of Directors and the management and execution functions of the executive side and will further enhance its effectiveness by regularly reviewing its progress.

The company will systematically set agendas in line with medium to long-term strategies and issues for growth, and will enhance discussions from a long-term perspective

The company will enhance the effectiveness of the Corporate Officers Meetings, the highest decision making authority on the executive side

The company will conduct an analysis of the decision making of the Board of Directors, clarify the points of deliberation, and enhance opportunities for sharing information with outside directors and outside Audit & Supervisory Board members on occasions other than board meetings and off-site meetings

Message from the Chairman of the Board of Directors

Yoshikazu Nunokawa
Chairman of the Board of Directors

One year has passed since I was appointed chairman of the Board of Directors as a non-executive director in June 2022.

Even prior to that, Tokyo Electron’s Board of Directors was engaged in the pursuit of the Board’s effectiveness and strengthening of governance system aimed at ongoing corporate value enhancement.

Actually, since over 20 years ago, ahead of the demands of the times, we established discretionary committees, namely the Compensation Committee and Nomination Committee, disclosed the remuneration of each representative director, and so on.

As we mark the milestone of our 60th fiscal year in fiscal 2023, we have a 50:50 ratio of outside (3) to inside (3) directors, creating a highly independent organization of directors. In addition, we have revised our governance system, including the introduction of our own Corporate Officer system, to enable speedier decision making by the management executive body and agile business execution.

The corporate officers, as the highest position in our business execution, take the same viewpoint as the CEO, undertaking execution of Group management. The Board of Directors appropriately accelerated the delegation of authorities to that the Corporate Officers Meeting, comprised of the corporate officers, is able to function swiftly and flexibly as the highest decision-making body on the executive side. As a result, we have established a system where the Board of Directors is able to better focus on its supervisory function. In addition, the corporate officers attend the Board of Directors, where they not only directly see the various deliberations that take place aimed at enhancement of corporate value, they also take part in the deliberations, and are thereby able to take the knowledge and motivation they gain there directly to the sphere of execution.

In fiscal 2022, Tokyo Electron realized the financial model set out in the Medium-term Management Plan, formulated in May 2019, two years ahead of schedule, and formulated a new Medium-term Management Plan in June 2022. The Board of Directors has checked our progress towards achievement of the financial targets described in the new Medium-term Management Plan (net sales of 3 trillion yen or more, operating margin of 35% or more, ROE of 30% or more), while also reviewing the progress of many sustainability-related initiatives, such as promotion of net zero and DE&I, and indicators (non-financial targets). Moving forward, the Board of Directors will continue to extensively supervise initiatives aimed at corporate value enhancement over the medium- to long-term.

The open and flat corporate climate that Tokyo Electron has maintained since its founding is the source of our strength. Our Board of Directors will continue to value this positive corporate culture, while also paying close attention to the constantly changing trends in our world. Holding a global perspective, we will strive to undertake open, frank and proactive deliberation with a sense of speed and make the best decisions at the appropriate timing to contribute to corporate value enhancement, tackling important issues, focusing on risk management, as well as further strengthening corporate governance.
### Value Creation by the Value Chain

#### Skills Matrix

We define “Product Competitiveness,” “Customer Responsiveness,” “Higher Productivity” and “Management Foundation,” which supports our overall business activities, as material issues. We will achieve the medium-term goals in each material issue and realize expanding medium- to long-term profit and continuous corporate value enhancement through each Corporate Director and Audit & Supervisory Board Member, who have demonstrated their skills in Global Business, Governance, Sustainability, and others listed below as determined by the Nomination Committee and the Board of Directors.

#### Definition of Expected Skills

<table>
<thead>
<tr>
<th>Corporate Management</th>
<th>Experience of corporate management (experience serving as a representative director or chairman/president)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semiconductor Markets</td>
<td>Knowledge of semiconductor markets</td>
</tr>
<tr>
<td>Manufacturing/Development</td>
<td>Knowledge of experience in manufacturing and development at TEL and other manufacturers</td>
</tr>
<tr>
<td>Sales/Marketing</td>
<td>Knowledge of experience in sales and marketing at TEL and other manufacturers</td>
</tr>
<tr>
<td>Finance, Accounting/Engagement with Capital Markets</td>
<td>Knowledge in financial accounting and M&amp;A, or knowledge of experience in engagement with capital markets</td>
</tr>
<tr>
<td>Legal Affairs/Risk Management</td>
<td>Knowledge of legal affairs, compliance, and risk management</td>
</tr>
</tbody>
</table>

#### Diversity of Board Members

Expected Skills of Corporate Directors and Audit & Supervisory Board Members (as of July 1, 2023)

<table>
<thead>
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<tbody>
<tr>
<td>Independent Outside Directors</td>
<td>3/6</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Female Corporate Directors</td>
<td>2/6</td>
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</tbody>
</table>

#### Directors, Audit & Supervisory Board Members and Corporate Officers (As of July 1, 2023)

**Directors**

- **Toshiki Kawai**
  - Representative Director
  - President & CEO
  - Corporate Officer

- **Sadao Sasaki**
  - Representative Director
  - Senior Executive Vice President

- **Yoshikazu Nunokawa**
  - Corporate Director
  - Chairman & Representative Director

- **Michio Sasaki**
  - Corporate Director
  - Chairman of the Board of Directors

- **Makiko Eda**
  - Corporate Director
  - Chief Representative Officer, World Economic Forum Japan

- **Sachiko Ichikawa**
  - Corporate Director
  - Partner, Tanabe & Partners

**Audit & Supervisory Board Members**

- **Kyosuke Wagai**
  - Audit & Supervisory Board Member

- **Masataka Hama**
  - Audit & Supervisory Board Member

- **Ryota Miura**
  - Audit & Supervisory Board Member

**Corporate Officers**

- **Tatsuya Nagakubo**
  - Corporate Officer

- **Seisu Ikeda**
  - Corporate Officer

- **Yoshinobu Mitano**
  - Corporate Officer

- **Takeshi Okubo**
  - Corporate Officer

**Corporate Management Experience**

Corporate Management Experience of corporate management (experience serving as a representative director or chairman/president)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Independence and Diversity of Corporate Directors</td>
<td>Independent Outside Directors</td>
<td>3/6</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
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<td>2/6</td>
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</table>

**Corporation Reappointment**

- **Toshiki Kawai**
- **Sadao Sasaki**
- **Yoshikazu Nunokawa**
- **Michio Sasaki**
- **Sachiko Ichikawa**
- **Makiko Eda**
- **Makiko Eda**
- **Sachiko Ichikawa**
As for future challenges, I believe it is important to stay ahead of the times and take an ever-learning approach to the very nature of the entire supply chain, procurement, product competitiveness and manufacturing sites as specific challenges related to medium- to long-term business strategy. I am also keenly aware of the need to prepare for future growth and work toward further investment in human resources, investment in research and development, and diversification.

Governance is a journey without end. Therefore, I will continue striving to ensure the company is in a position to contribute to shareholders and all other stakeholders on an ongoing basis.

As Chairperson of the Compensation Committee, what did the committee achieve over the past year, and what challenges did it face?

Over the year, the Compensation Committee has been reviewing the director compensation system in particular to ensure even greater sustainability. During this process, to achieve the best level of compensation globally, we focused on ensuring that compensation is competitive against global benchmarks, that non-financial factors are better reflected in compensation amounts, and that migration from existing systems is smooth and satisfactory to all.

With human resource mobility increasing globally, we can also expect competition for talent, so it is essential that compensation systems be designed to be competitive. Therefore, it is essential that the Compensation Committee also continue to assess our system to ensure it functions effectively and is competitive. I want to create an environment where substantive discussion on our compensation system can be opened up even further.

Interview with Outside Directors

Makiko Eda
Independent Outside Director
Compensation Committee Chairperson

How would you rate corporate governance at Tokyo Electron right now, and what future challenges do you see?

As I understand it, governance means supervising a company’s activities to enable ongoing sustainable growth of the company, preservation of the global environment and contributions to human society.

In a rapidly changing and complex external business environment, I am reassured that key risks are being identified at Tokyo Electron, and that risk management is being implemented under the direction of executives with ownership over each of those risks. However, risks are always changing, so it is important to continually hone our responsiveness through constant auditing and reporting while never letting down our guard. Geopolitical risks in particular are out of our control, but because they can potentially impact all other business risks, it is essential that we obtain information and confirm the facts quickly. On this point, I believe that we have enhanced our external relation function and are now seeing results.

Activities of the Compensation Committee

Process for Determining Annual Performance-Based Compensation for the Representative Directors

Setting the Mission (Evaluation Items)
Set the mission after deliberations by the Compensation Committee as well as deliberations by the members of the Board of Directors excluding the representative directors (in a closed session)

Performance Evaluation
After deliberations by the Compensation Committee, evaluated by the members of the Board of Directors excluding the representative directors (in a closed session)

Determination of the Amount of Compensation
Determined by resolution of the Board of Directors upon proposal of the amount to be paid by the Compensation Committee to the Board of Directors

Role of the Compensation Committee

Establish a Compensation Committee comprised of three or more directors, including outside directors but excluding the representative directors, to secure transparency and fairness in management and appropriateness of compensation

Have an external expert attend every meeting of the Compensation Committee, utilize advice from the external expert, compare wage levels with companies in Japan and abroad, analyze the latest trends in Japan and abroad and best practices such as reflecting ESG indicators in compensation and propose to the Board of Directors a compensation system that is most appropriate for the Group in light of the Company’s basic policies on compensation, and individual compensation amounts for the representative directors

Activities of the Compensation Committee in Fiscal 2023

Discussed the compensation system and process

Determined the medium-term performance-linked compensation plan for 2022

Determined the mission and individual evaluation for the representative directors

Determined the fixed basic compensation and annual performance-linked compensation for the representative directors

Confirmed the compensation determination process for inside directors, etc.

Determined disclosures related to the director compensation system and agenda items for the Shareholders’ Meeting

Michio Sasaki
Independent Outside Director
Nomination Committee Chairperson

How would you rate corporate governance at Tokyo Electron right now, and what future challenges do you see?

The company as a whole takes a proactive stance toward governance, and I think this has led to strong performance and employee pride.

While the basic approach is to carefully explain the CEO’s message again and again through employee meetings and other channels to ensure management objectives are instilled in employees, few companies put this into practice at the level that we do at Tokyo Electron.

In respect to non-financial objectives, we clearly define quantitative targets for them, and for decarbonization in particular, we have announced those numerical targets and timetables as we establish initiatives to achieve them. For us, it is extremely important that we link these initiatives directly to solutions for social issues for our business.

One challenge going forward is to use scenario analysis and other methods to predict dramatic changes in the business environment as early as possible, and convert them into business opportunities rather than missing them. In terms of risks, initiatives related to information security risks are the most important, so we must constantly work hard to implement measures on an ongoing basis.

From the perspective of someone who has led a manufacturing company, what do you see as the strengths and challenges of Tokyo Electron?

At Tokyo Electron, our company objectives are clear; they are shared with all employees and everyone is aligned in the same direction. This fosters a competitive corporate culture with a high level of participation in management. The performance-linked compensation system also enables the accomplishment of objectives to be reflected in individual evaluations, which had led to a few turnover among employees. Such a corporate culture is an intangible asset that cannot be readily copied by other companies. I consider this to be one of our strengths, and a source of our competitiveness.

We continue to maintain a high level of investment in research and development, but most important is how much this development actually contributes to sales. I would like to look further into the focus on R&D expenses with this in mind. To enhance our development capabilities to a level that overshadows our competitors, we need to create mechanisms for even faster development with a focus on enhancing our planning and front-line capabilities.

Although product supplies were unaffected by the pandemic, we also need to further strengthen our supply chains through such things as cross-classification of parts through collaboration across our plants. Backcasting from our medium- to long-term vision for Tokyo Electron in the future, we need to clarify what actions are required to achieve that goal going forward.

In this way, the specialized monitoring structure of the Board of Directors itself has become clear, and the company’s corporate governance is steadily evolving. However, as we evolve, the difficulty of our challenges also inevitability increase, and we have to rise above each of them through a non-stop, ever-improving spiral.

How would you rate our sustainability initiatives over this past year?

Because of the nature of our businesses, we are positioned to feel the impacts of the sustainability management trend directly. ESG, for instance, is both a risk and an opportunity to us. Starting with “Environment,” reducing the lifecycle CO2 emissions of semiconductors and semiconductor production equipment is a major issue that requires us to reduce our environmental impacts through such things as more advanced technologies. In terms of “Social,” from the perspective of gender diversity, there is an urgent need to increase the number of female science students, from a low base globally, and boost innovation. And for “Governance,” we have to strengthen company-wide initiatives related to the issues of geopolitical risk and economic security, which both impact our businesses considerably.

At Tokyo Electron, we understand the risks and opportunities associated with such topics, and we are implementing appropriate initiatives. In terms of achieving our objectives, it is important that we create more granular KPIs, set milestones and explain them to our stakeholders. We also need to perform our supervisory function in the Board of Directors.

Sachiko Ichikawa
Independent Outside Director
Nomination Committee Member

From the perspective of a shareholder who has been attending the annual meeting for 15 years, what do you see as the strengths and challenges of Tokyo Electron?

At Tokyo Electron, all employees contribute to the company’s growth. Every year, we invite the shareholders to our annual meeting, and the presence of shareholders at this meeting is very important. This is a very unique corporate culture, and this culture is the foundation of our corporate governance.

How would you rate corporate governance at Tokyo Electron right now, and what future challenges do you see?

Having introduced a Corporate Officer System in June 2022, our corporate officers attend meetings of the Board of Directors as a bridge between the executive and the Board. As a result, outside directors and outside Audit & Supervisory Board members make comments from their market-aware shareholder perspective, and corporate officers actively seek to take them on board for use in execution of their duties. My impression is that such positive energy can be felt at the Board of Directors meetings.

The executive seeks to elicit meaningful comments and advice from the outside directors and outside Audit & Supervisory Board members, who in turn attempt to provide high-level comments utilizing their own skills and experience. Such a positive spiral is brought about by changes to the agenda and discussions of the Board of Directors. For example, more in-depth discussion on capital policy is occurring from the perspective of how it is viewed from the eyes of shareholders and other stakeholders.

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Approach to Risk Management

We are building and developing a risk management system to respond appropriately and promptly to risks that are growing increasingly complex and diverse as society and the business environment change. We identify cross-division and comprehensive risks across the entire Group to build a solid financial foundation based on the Medium-term Management Plan that is competitive globally. We make decisions and supervise particularly material risks at the Corporate Officers Meeting and the Board of Directors.

Risk Management System

We have established the organization to oversee the entire Group at our headquarters and carry out enterprise risk management to promote more effective risk management. This organization, together with the respective departments responsible for each operation, comprehensively identifies a wide range of risks associated with our business activities, such as compliance, human resource, labor and business continuity, and classifies those with high impact and probability as our material risks.

In addition, we strive to improve the effectiveness of risk management through measures such as regular education and training programs for management and employees to raise Group-wide risk awareness, formulating and monitoring the implementation of measures to reduce material risks, and reinforcing the PDCA cycle through discussions at major internal meetings.

Specifically, we review the response status of the PDCA cycle at our headquarters and carry out enterprise risk management.1 This organization, identifying known and unknown risks that may surround the Group, comprehensively identifies a wide range of risks together with the respective departments responsible for each operation to foster the practical ability to ensure the continuation of business operations in the event of an emergency.

Starting in fiscal 2023, we are promoting further DX in our risk management activities by introducing GRC tools that utilize digital technology. It is now possible to visualize the assessment of and countermeasures against risks across the entire Group, as well as to synchronize the information among risk owners and departments in charge of each risk on a global and cross-sectional basis through the use of these tools.

To continue practicing autonomous and highly effective risk management, we will develop group-wide activities for each risk owner to further strengthen risk management for the 12 risk items that we have defined.

1 Enterprise risk management: Group-wide systems and procedures related to risk management activities.
2 GRC tools: A system that contributes to rational decision-making in a timely manner by systematically organizing multi-layered and complex corporate management frameworks and management information collected through the integration of governance, risk and compliance (GRC) measures related to corporate activities.

Risk Management Initiatives

We have begun to address emerging risks from a medium- to long-term perspective, going a step further than its conventional approach of assessing the current risk management state, identifying known and unknown risks that may surround the company in the future and examining mitigation measures. In fiscal 2023, the 12 risks identified to date were reviewed and reevaluated from the perspective of their potential to have a significant impact on our operating results, financial condition, and cash flow. We then pushed forward risk management initiatives for each identified risk even further.

12 Risks

<table>
<thead>
<tr>
<th>Risk</th>
<th>Main Potential Risks</th>
<th>Main Risk Management Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Fluctuations</td>
<td>A rapid contraction of the semiconductor market could lead to overproduction or an increase in dead inventory.</td>
<td>Periodically review market conditions and orders received at the Board of Directors and other important meetings, and appropriately adjust capital investments, personnel investment planning and other aspects of business.</td>
</tr>
<tr>
<td></td>
<td>An increase in demand could lead to an inability to supply customers with products in a timely manner, resulting in stock-out opportunities.</td>
<td>The Account Sales Division and the Global Sales Division strengthen the sales framework and customer base by grasping movement trends of customers and responding to a wide range of customers.</td>
</tr>
<tr>
<td>Research and Development</td>
<td>Delays in the launch of new products or the mismatch of such products with customer needs could lead to a decline in the competitiveness of products.</td>
<td>Establish the Corporate Innovation Division and build a Group-wide development framework that integrates innovative technology development with the technologically advanced semiconductor sector.</td>
</tr>
<tr>
<td>Environmental Issues</td>
<td>The occurrence of a product defect could lead to liability for damages, costs for countermeasures and a decline in the Group’s brand and profitability.</td>
<td>Provide highly competitive next-generation products ahead of competitors by collaborating with research institutions and sharing a technology roadmap spanning multiple generations with leading-edge customers.</td>
</tr>
<tr>
<td>Procurement, Production and Supply</td>
<td>Interruptions in the Company’s production due to a natural disaster or delay in component procurement due to deterioration in the business conditions of suppliers or an increase in demand that exceeds the supplier’s supply capacity could lead to delays in the supply of products to customers.</td>
<td>Formulate BCP, develop alternate production capabilities, promote the semantic reinforcement of plants, level production, enhance the backup capabilities for information systems, use multiple sources of important parts, and maintain appropriate inventory levels.</td>
</tr>
<tr>
<td>Safety</td>
<td>Failures or accidents with the Company’s products or serious accidents resulting in workplace injuries could lead to damage to customers, liability for damages and a decline in public trust and confidence in the Company’s safety initiatives.</td>
<td>Share forecasts based on demand projections for semiconductors and build a system for the stable supply of products.</td>
</tr>
<tr>
<td>Quality</td>
<td>The occurrence of a product defect could lead to liability for damages, costs for countermeasures and a decline in the Group’s brand and profitability.</td>
<td>Promote continuous education on quality to employees and suppliers to establish a quality assurance system and a world-class system.</td>
</tr>
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<tr>
<td>Law and Regulations</td>
<td>Violations of the laws and regulations of the countries and regions in which the Company operates could lead to diminished public confidence in the Company, fines, liability for damages or restrictions on business activities.</td>
<td>Provide technologies, etc., that contribute to higher performance and energy efficiency of semiconductor devices through implementation of our E-COMPASS initiative.</td>
</tr>
<tr>
<td>Intellectual Property Rights</td>
<td>The inability to obtain exclusive rights to proprietary technologies could lead to reduced product competitiveness.</td>
<td>Establish the Corporate Intellectual Property Division and build an appropriate intellectual property portfolio.</td>
</tr>
<tr>
<td></td>
<td>Infringement of the intellectual property rights of third parties could lead to restrictions on the production and sale of products as well as liability for damages.</td>
<td>Reduce the risk of infringement of other companies’ patents by continuously monitoring other companies’ patents and establishing a system to take appropriate measures in cooperation with the business and R&amp;D departments.</td>
</tr>
<tr>
<td>Information Security</td>
<td>Breaches of information or the suspension of services due to unauthorized access by cyberattack against the Company or suppliers, natural disasters or other factors could lead to diminished public confidence in the Company or liability for damages.</td>
<td>Launch a dedicated security organization and establish an information security system that conforms to international standards by having security assessments conducted by external experts, etc.</td>
</tr>
<tr>
<td>Human Resources</td>
<td>The inability to recruit and retain necessary human resources on an ongoing basis or the inability to create an organizational culture in which employees can develop skills and expertise can play an active role could lead to diminished product development capacity or customer support quality.</td>
<td>Establish globally standardized rules and regulations for information management and implement response guidelines.</td>
</tr>
<tr>
<td>Other Risks</td>
<td>The global and regional political landscape, economic environment, financial and stock markets, foreign exchange fluctuations, infectious diseases and natural disasters such as earthquakes, inundations and floods, among other factors, could cause the Company’s business activities to stagnate and the global economy to deteriorate.</td>
<td>Take appropriate measures against such risks.</td>
</tr>
<tr>
<td>Infectious Diseases and Natural Disasters</td>
<td>The global and regional political landscape, economic environment, financial and stock markets, foreign exchange fluctuations, infectious diseases and natural disasters such as earthquakes, inundations and floods, among other factors, could cause the Company’s business activities to stagnate and the global economy to deteriorate.</td>
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Chapter 3
Value Creation by the Value Chain

Risk Management

Board of Directors, and the CSS, etc., and decide a response policy at the meetings. Specifically, we review the response status of the PDCA cycle at our headquarters and carry out enterprise risk management.1 This organization, identifying known and unknown risks that may surround the Group, comprehensively identifies a wide range of risks together with the respective departments responsible for each operation to foster the practical ability to ensure the continuation of business operations in the event of an emergency.

Starting in fiscal 2023, we are promoting further DX in our risk management activities by introducing GRC tools that utilize digital technology. It is now possible to visualize the assessment of and countermeasures against risks across the entire Group, as well as to synchronize the information among risk owners and departments in charge of each risk on a global and cross-sectional basis through the use of these tools.

To continue practicing autonomous and highly effective risk management, we will develop group-wide activities for each risk owner to further strengthen risk management for the 12 risk items that we have defined.

1 Enterprise risk management: Group-wide systems and procedures related to risk management activities.
2 GRC tools: A system that contributes to rational decision-making in a timely manner by systematically organizing multi-layered and complex corporate management frameworks and management information collected through the integration of governance, risk and compliance (GRC) measures related to corporate activities.
Information Security

As the data-driven society advances and the importance of information security increases, we aim to achieve both data utilization and information security by promoting DX and other initiatives. Cyberattacks (including ransomware) and information leaks are on the rise, with the number of incidents increasing year after year. To prevent such risks and undertake improvement activities for technological, internal audits for each department of the entire Group, evaluate and improve their security situations, to ensure that confidential information and information on our customers and suppliers that is shared in the course of business activities can be used safely without a loss of convenience.

Main Activities

Information Security Systems

We regularly verify and review our global information security regulations, and conduct information security education twice a year and phishing email training every month for all executives and employees. We also hold seminars for management twice a year to share the latest situation on information security, including cyber security. In addition, we implement risk assessments and internal audits for each department of the entire Group, evaluate risks and undertake improvement activities for technological, human, organizational and physical security measures.

Information Security Management

We have proactively introduced state-of-the-art technology and established a dedicated security organization, and are operating a robust monitoring system, to respond to security threats such as cyberattacks (including ransomware) and information leaks.

Security at Manufacturing Sites and in Products

We implement security measures at each manufacturing site to ensure that the manufacturing systems that support our business activities are operating safely and stably while maintaining QCD*1. We are also working to ensure information security in our products as one of our services and as part of the quality that is required to meet our customers’ expectations.

Supply Chain Security

We respond to customer requests for security and work with our suppliers to visualize, evaluate and improve their security situations, to ensure that confidential information and information on our customers and suppliers that is shared in the course of business activities can be used safely without a loss of convenience.

Increasing Resilience

We operate a system that can detect the occurrence of security incidents, and have structures in place that aim to respond to issues and recover systems swiftly. We also carry out incident response training for the entire Company, including management, and confirm pre-determined procedures to ensure that impacts on operations and on customers will be minimized even in the event of operations being disrupted by an incident. We also implement a penetration test*2 for systems-related aspects twice a year and are developing improvement activities on an ongoing basis.

Responses to Security Threats

We have proactively introduced state-of-the-art technology and established a dedicated security organization, and are operating a robust monitoring system, to respond to security threats such as cyberattacks (including ransomware) and information leaks.

Engagement with Capital Markets

Our management actively engages in IR (Investor Relations) and SR (Shareholder Relations) activities to contribute to our sustainable growth and increase corporate value over the medium to long term. In terms of IR activities, the CEO and each company’s executive appear at quarterly financial announcement and Medium-term Management Plan briefings to share our business strategies and growth story. We have also established the IR Department under the direct control of the CEO to enable direct discussions with our investors. As a part of our SR activities, the company executives play a central role in constructive dialogue with our major investors and proxy advisory firms. In addition to explaining the Shareholders’ Meeting agenda in advance, we engage in repeated dialogue throughout the year on a wide range of topics including corporate governance, our policies about sustainability-related initiatives, the environment, human rights, and diversity and inclusion. Opinions gathered from dialogues with investors are regularly reported to management and the Board of Directors.

Main Activities

Engagement with Capital Markets

IR Activities

- Individual meetings for institutional investors: 624 times*, overseas IR road shows: 3 times*

Financial Announcement

- Broadcasting using simultaneous interpretation and subtitles

- Broadcasting of archives from announcements/ conferences within one business day, disclosure of Q&A within two business days.

Press Release

- Broadcasting of archives from announcements/ conferences within one business day, disclosure of Q&A within two business days.

Shareholder Meeting

- Posting of conviction notices on the website and dispatch of conviction notices at an early stage

Disclosure of Material IR-related

- Consolidated Financial Statements, Integrated Report, Fact Book (each once per year)
- Quarterly Report, Earnings Release, Financial Announcement Material, Corporate Update (each 4 times/year)

- Fiscal 2023

Participation in Global Initiatives

We participate in a variety of global initiatives and promote sustainability in our business activities. The United Nations Global Compact (UNGC) is a global initiative that promotes sustainability, proposed by former UN Secretary-General Kofi Annan at the 1999 World Economic Forum. We signed onto the UNGC in 2013 and are working to contribute to the realization of sound globalization and a sustainable society in accordance with its Ten Principles in the areas of Human Rights, Labor, Environment and Anti-Corruption.

The Responsible Business Alliance (RBA) is a global initiative promoting supply chain sustainability focused on the electronics industry. We joined the RBA in 2015, and as a member company, we work together with suppliers to ensure compliance with the RBA Code of Conduct comprised of five sections: Labor, Environment, Health and Safety, Ethics and Management Systems. RBA audits are carried out mainly at major manufacturing sites in Japan and overseas, and we implement any necessary corrective actions.

In 2020, we expressed our approval of the recommendations offered by the Task Force on Climate-related Financial Disclosures (TCFD)1. We are conducting ongoing disclosures and discussions based on the framework of governance, strategy, risk management, metrics and targets relating to the risks and opportunities that climate change presents to our overall business.

Evaluation from Third-party Institutions

Our sustainability initiatives have allowed us to continue to be selected as a constituent stock under leading global ESG indices, including the Dow Jones Sustainability™ Asia/Pacific Index, FTSE4Good Index Series, MSCI ESG Leaders Indexes*, Euronext Vigeo World 100 Index and STOXX Global ESG Leaders Indexes. In fiscal 2023, we were selected under the Bloomberg Gender-Equality Index (CEI) and evaluated as a low-risk company in Sustainalytics’ ESG Risk Ratings*, as well as being selected for the first time as an “A+” under the 2023 All-Japan Executive Team announced by Institutional Investor.

Additionally, we received the Porter Prize, which recognizes companies and enterprises that implement unique and outstanding strategies in Japan.

Furthermore, we received recognition as one of the top 500 companies under the 2023 Certified Health & Productivity.

Management Outstanding Organizations Recognition Program* for the 5th consecutive year, while the Tokyo Electron Integrated Report 2022 was selected again as an “Excellent Integrated Report” by the Government Pension Investment Fund (GPIF)’s external asset managers entrusted with domestic equity investment, continuing from the previous year.

1 Refer to Initiatives Related to Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) on p. 54