The cover photo shows flowers of the countries and regions in which we do business.

Centauraea cyanus (Germany)
Editorial Policy

This report aims to communicate to all stakeholders the responsibilities and roles that Tokyo Electron has in society and the various activities it implements toward value creation. It describes global initiatives aimed at developing and resolving issues for industry and society. In fiscal year 2021, following a review of our material issues, we settled on the four areas of product competitiveness, customer responsiveness, higher productivity, and management foundation, which supports these other areas. The report clarifies priority themes, short- and medium-term goals, and SDGs initiatives for each of the material issues. Data sets are included at the end of the report, with an accompanying third-party assurance report attached for those items that are considered to be of particularly high importance.

We remain committed to understanding all of our stakeholders’ demands and disclosing information timely and transparently. For more detailed information, please consult our official website.

URL: www.tel.com/csr/

Scope

This report and related data cover the entire Tokyo Electron Group (28 consolidated companies, including the Group companies), with the exception of some domestic (Japan-exclusive) content.

Reference Guidelines

Global Reporting Initiative (GRI): Sustainability reporting standards
Environmental Reporting Guideline 2018, Ministry of the Environment, Government of Japan

Published Date

July 2021 (Next report: July 2022)

Period Covered

Fiscal year 2021 (April 1, 2020 to March 31, 2021), same content also covers fiscal year 2022

Contact

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Tokyo Electron’s Logo

Tokyo Electron’s logo was created as a symbol for our next stage of growth, based on our corporate philosophy and vision. This simple design represents our reliability and the engaging presence we bring to a competitive industry. The green square at the center of the logo signifies the core of innovation supporting development in industry; the translucent blue expresses our leading-edge advanced technology.

We strive to contribute to the development of a dream-inspiring society through our leading-edge technology and reliable service and support.
Tokyo Electron operates worldwide as a leading company in semiconductor and flat panel display (FPD) production equipment. By providing the Best Products and Best Technical Service, we are aiming for medium- to long-term profit expansion and continuous corporate value enhancement. We are also practicing our Corporate Philosophy by contributing to developing a sustainable society through our business.

**Company Overview**

Tokyo Electron’s product line encompasses wafer process front-end and back-end equipment, the company said. The company's technology spans various fields, including semiconductor manufacturing and engineering, Nanotechnology, and big data.

**History**

- **1960s**: Founded as a technical special trading company.
- **1970s**: Became a full-scale manufacturer.
- **1980s**: Shifted to a full-scale manufacturer.
- **1990s**: Accelerated globalization.
- **2000s**: Aspiration toward innovation and new growth.
- **2010s**: Big Data.
- **2020s-**: Unspecified.

**Number of Sites**

- **Japan**: 7 companies at 26 sites
- **Overseas**: 21 companies at 50 sites
- **Worldwide total**: 28 companies at 76 sites

**Sales by Region (Consolidated)**

- Southeast Asia and Others: 52.4 (47%)
- Europe: 398.4 (28.5%)
- North America: 152.0 (10.9%)
- Japan: 1,399.1 billion yen (fiscal year ended March 31, 2021)
- South Korea: 285.2 (20.4%)
- Europe: 541 (3.7%)
- North America: 1,796 (12.4%)
- Asia: 3,846 (26.6%)

**Number of Employees by Region (Consolidated)**

- Europe: 8,296 (57.3%)
- Japan: 14,479 people (fiscal year ended March 31, 2021)

**Semiconductor Manufacturing Process and Our Main Products**

- **Wafer Process (Front-end)**
- **Assembly and Test Process (Back-end)**

**FPD Production Equipment**

- Back-end Equipment
  - FPD Coater/Developer
  - FPD Plasma Etch/Ash System
  - FPD Plasma Etch/Ash System
  - Inkjet Printing System for manufacturing OLED display/Elliptic®
- Front-end Equipment
  - Interconnect Formation
  - Testing
  - Packaging/Assembly

**Contact Information**

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Tokyo Electron is a global provider of solutions for semiconductor manufacturing and engineering, Nanotechnology, and big data.
Our pursuit of sustainability is the practice of our Corporate Philosophy, and we undertake a diverse range of company-wide measures through our business.

As the social importance of semiconductors and displays increases, the key issues that we need to strengthen (i.e., material issues) based on a strong management foundation of safety, quality, compliance, governance and risk management underpinning our business activities are product competitiveness (being the first to identify leading-edge technological trends and changing needs), continuously creating next-generation products with the overwhelming added value and performance that future customers will require, and being the sole strategic partner based on our extensive track record and customer responsiveness, as well as higher productivity based on the continual improvement of operational efficiency. As a result of these efforts, we will further reinforce earnings power.

To address environmental issues, our technologies contribute to enhancing the performance and reducing the power consumption of semiconductor devices and displays, and in December 2020, we revised our medium-term environmental goals for fiscal year 2031. Our goals are to reduce CO2 emissions per wafer by 30% compared with fiscal year 2019 and to reduce total CO2 emissions from plants and offices by 70% compared with fiscal year 2019 by using 100% renewable energy and implementing other measures. In addition to these industry-leading goals, we launched E-COMPASS (Environmental Co-Creation by Material, Process and Subcomponent Solutions) as a new initiative in June of this year. We believe that continuously implementing global environmental preservation measures throughout the entire supply chain will strengthen product competitiveness and lead to the provision of added value to customers. Through these measures, we will perform our social roles for achieving decarbonization.

To promote the sustainability management expected of us by global society, we signed the United Nations Global Compact and joined the Responsible Business Alliance (RBA). Through these international initiatives, we are actively addressing environmental issues and human rights issues as well.

Regarding corporate governance that underpins our business activities, we strive to create highly effective structure that can achieve sustainable growth while considering our corporate culture and the unique characteristics of our business so that we can adequately perform management decision-making and supervisory functions.

Moving forward, to properly fulfill our mission and responsibilities, we will aim to remain a truly excellent global company that is loved and highly trusted by all stakeholders by promoting sustainability-focused management and contributing to addressing issues of industry and society as well as their development.

Your continued support and patronage are very much appreciated by all of us at Tokyo Electron.

I would like to express my sincere gratitude to all stakeholders for your continued support and patronage.

The previous year saw the global spread of COVID-19 and frequent natural disasters arising from climate change, including torrential rains in Japan and hurricanes and cold spells in North America. In addition, there were geopolitical issues such as trade friction as well as various human rights issues that occurred worldwide. It became a year carved in history as one that had a major impact on society and the lives of people.

On the other hand, it was also a year when digital transformation (DX) made progress in our daily lives and all kinds of industries, and the importance of semiconductors, which are essential for information and communication technology (ICT), became prominent. Applications expanded for the displays that link people and data, and additional advances in technological innovation were made.

As a result of the spread of the IoT, AI, 5G and other technologies, we are transitioning to a data society at an unprecedented pace. As efforts to solve global environmental problems progress, the balancing of “digital and green” is now a major trend around the world.

Under the circumstances, Tokyo Electron seeks to leverage our expertise developed as a globally leading company and as a manufacturer of semiconductor and flat panel display production equipment and use all of our management resources, including the employees who are the source of value creation, in order to contribute to the realization of the social issue of the compatibility of digitalization and greening as well as a shared value. We strive to practice our Corporate Philosophy, “We strive to contribute to the development of a dream-inspiring society through our leading-edge technologies and reliable service and support” while increasing medium- to long-term profit expansion and continuous corporate value enhancement.
Tokyo Electron’s CSR

Tokyo Electron’s Corporate Philosophy

We strive to contribute to the development of a dream-inspiring society through our leading-edge technologies and reliable service and support.

CSR Policy

The CSR operations of Tokyo Electron are initiatives that realize our Corporate Philosophy. We pursue sustainable operations from the viewpoints of corporate governance, legal and regulatory compliance and business ethics while creating new value through our products and services. Based on these efforts, we implement CSR activities to help address social issues. We will continue to pursue CSR activities to build stakeholder trust, improve corporate value and, by doing so, promote the growth of a sustainable and dream-inspiring society.

CSR Promotion Framework

We implement sustainability management, integrating it with our business strategy from a medium- to long-term perspective of corporate value enhancement. These groups have already been established to promote CSR activities.

1. The CSR Management Council, the highest decision-making body regarding CSR, conducts discussions on the policy for the entire company, and important projects. Based on this, the CSR Global Committee discusses CSR target setting and progress management regarding activities for achieving CSR targets, along with promoting global projects, and shares best practices.

2. At the CSR Monthly Meeting, information on CSR activities is shared with representatives from each division, and collaborative systems are built to tackle cross-divisional issues.

We are also working to further strengthen our CSR structure by appointing CSR managers at the company headquarters as well as the Group companies in Japan and overseas companies to be in charge of understanding CSR policy and goals and promoting activities.

Evaluation from Third-Party Institutions

Our CSR activities have received high appraisals from evaluation organizations around the world. We have continued to be selected as a constituent stock under leading global ESG investment indices, including the DJSI Asia Pacific Index, FTSE4Good Index4 and MSCI World ESG Leaders Indexes6, and in 2021, we were also rated as a low-risk company in Sustainalytics’ ESG Risk Ratings7.

Financial Model in the Medium-Term Management Plan

In addition to pursuing sustainable operations in line with our CSR policy, we are also striving for medium- to long-term profits and ongoing corporate value enhancement through creating new value through business and helping in the resolution of issues and development of industry and society. In May 2019, against a backdrop of market growth for semiconductor and flat panel display production equipment, we formulated the Medium-term Management Plan and set goals in the associated financial model of net sales of 2 trillion yen, an operating margin of 30% or higher and ROE9 of at least 30% by March 2024. We have also set two goals for net sales and returning appropriate shareholders in the event of changes in the macro-economy or in the semiconductor supply-demand balance.
Identifying Material Issues

Tokyo Electron identifies important and priority material issues (key issues) to be addressed for the medium- to long-term enhancement of corporate value by examining both social and business environments, evaluating risks and opportunities and holding active dialogues with stakeholders.

Issues Awareness

Social Issues

While society is currently being affected in many ways by the COVID-19 pandemic, humans are also faced with various issues, such as abnormal climate conditions and natural disasters, human rights issues, conflicts between nations and cyber-attacks. Mitigating climate change and eliminating inequality in human rights in particular are pressing issues for the global community, and there are strong calls for further action, not just by international organizations, but also by the private sector.

While participating in global initiatives such as the United Nations Global Compact and RBA and keeping an eye on societal trends, and considering recommendations from third party organizations, we also examine social issues that may impact our business activities.

Business Environment

With the spread of IoT, AI, 5G, and other technologies, a data-centric age has arrived and the implementation of digital transformation and information and communication technology (ICT) is accelerating. This further increases the importance of the semiconductor industry as a social infrastructure. Along with innovations in semiconductor technology, power consumption, thinner profile and flexibility, are expected to further expand the application fields.

New evolutions are also required in flat panel display (FPDs), which act as the interface between people and ICT, and further technical innovations are occurring. In the future, as organic EL displays become widespread, panel size increases, and design improvements that take advantage of enhanced characteristics such as high resolution, low power consumption, thinner profile and flexibility, are expected to further expand the application fields.

Taking actions to preserve the global environment has become an urgent issue, and initiatives toward decarbonization are accelerating on a global scale under international frameworks such as the SDGs and Paris Agreement. As the transition to a digital and green society progresses, the roles played by semiconductors and FPDs will also be expanded in the future.

At the same time, the importance of corporate governance, which fundamentally supports the medium- to long-term growth of corporations, is also increasing. Further strengthening of measures is essential to ensure safety and quality, as well as compliance and risk management.

Risks and Opportunities

We examined the risks and opportunities closely related to sustainable business development in consideration of social issues and social/business environments such as the SDGs.

Social Trends | Main Potential Risks | Opportunities
--- | --- | ---
Environmental | If we fail to comply with laws and regulations, industry codes of conduct, or in-house policy, product competitiveness and social credibility will decline, and the cost of correcting the problem will increase | Promote environmental management, improve the environmental performance of our company’s manufacturing equipment, create business opportunities and provide technologies that will help reduce the power consumption of semiconductor products and other products, in which we are joint ventures, or build partnerships with companies that manufacture semiconductor products, which we provide components for.
Human rights | If we fail to comply with laws and regulations, industry codes of conduct, or in-house policy, social credibility and employee engagement will decline | Create a workplace environment that respects employee diversity, and enables all employees to demonstrate their full capabilities, improving employee turnover rate and promoting health management.
Supply chain and management | In a natural disaster occurs, it becomes impossible to continue business transactions with suppliers, events such as delivery delays and contractual non-performance will harm business continuity | Establish a sustainable production system, further increase business operations efficiency, improve business continuity through enhanced business continuity plans, strengthen competitiveness in the supply chain and build trusted relationships with customers and suppliers.
Governance | If management’s monitoring or supervising function declines, management risk will increase, and business activities will integrate | Enhance corporate value on a medium- to long-term basis, gain stakeholders’ trust and increase social credibility.
Compliance | If ethical or compliance violation occurs, we will lose social and economic loss | Operate healthy corporate activities by complying with laws and regulations, industry codes of conduct and corporate ethics, and other rules.
Evasion of technology | If the development of leading-edge technologies is delayed, we will lose business opportunities | Create ground-breaking innovations, strengthen competitive superiority and contribute to industry and societal issue resolution and growth.
Information security | If confidential information is leaked, social credibility will decline, and compensation for damages may be required. If a cyber attack or natural disaster occurs, our business will integrate | Build a robust information infrastructure by strengthening information security, and improve information literacy.

Stakeholder Engagement

We examined the opinions and requests obtained through dialogue and engagement opportunities with stakeholders.

Identifying Material Issues

We have ascended the social issues and business environment, considered the risks and opportunities and examined the opinions and requests of all stakeholders. We have reassessed material issues from the perspectives of developing a sustainable society and enhancing medium- to long-term corporate value.

As a result, we decided to leave Product Competitiveness, Customer Responsiveness, and Higher Productivity unchanged, which are items already identified for enhancement in the Medium-term Management Plan as material issues. We also reexamined the significance and activities related to People and Workplaces, which had already been defined as a material issue through fiscal year 2021, and decided to integrate it into Management Foundation.

The material issues were decided at the CSR Management Council, attended by Chairman of the Board, Representative Director, and President & CEO, and corporate directors involved in CSR.

Identified Material Issues

Material Issues | Medium-term Goals | Priority Themes
--- | --- | ---
Product competitiveness | Create strong next-generation products | Tackling technology innovation
Customer responsiveness | Be the sole strategic partner | Solutions that create value for customers
Higher productivity | Continuously improve operational efficiency | Improvement of customer satisfaction
Management foundation | Build a strong management foundation for underpinning our business activities | Medium- to long-term corporate value

Annual Goals for Each Material Issue

Reflecting on the priority themes in each material issue, we verified the results against the goals for fiscal year 2021 and set annual goals for fiscal year 2022. In setting each goal, we have clearly identified the corporate director responsible for achieving it, and we are working on various activities aimed at further enhancing our corporate value and contributing to the achievement of SDGs.
### CSR Goals and Results

#### FY2021

<table>
<thead>
<tr>
<th>Material Issues</th>
<th>Priority Themes</th>
<th>Annual Goals</th>
<th>Results</th>
</tr>
</thead>
</table>
| Product
| Competitiveness | | | |
| - Tackling technological innovation | - Ensure that 20% or more of three-year moving average of all equipment models are new products for next-generation technologies | - 20% | |
| - Maintain the previous year’s global patent application rate (±5%) | - Maintained the previous year’s rate (Achieved 70% in fiscal year 2020; 76% in fiscal year 2021) | | |
| Environmental | | | |
| - Contribution to environmental improvement | - Reduce by 70% or more of CO2 by fiscal year 2025 (compared with fiscal year 2014) | - Reduced by 60% in fiscal year 2023 compared with fiscal year 2014 | |
| Customer | | | |
| - Creativity and innovation | - Increase TDK Electronic value to customers | - Increase sales and service both significantly from the previous fiscal year, driven by demand for smartphones and servers | |
| Improvement of customer satisfaction | - Achieve evaluations of "very satisfied" or "satisfied" for 100% of customer satisfaction survey respondents | - Achieved evaluations of "very satisfied" or "satisfied" for 96.7% (achieved in 29 of 30 questions) | |
| Continuous | | | |
| improvement of business operations | - Target a 5% improvement in operational efficiency as a medium-term goal; achieve cost management through adoption of new ERP system, in addition to business foundation where employees can focus even more on high-value work | - Expected ITMS of multiple overseas subsidiaries | - Expected ITMS of multiple overseas subsidiaries | |
| Quality | | | |
| Management | - Improve value for customers through the continued improvement of QM-ISO 9001 Submissions | - Improved value of QM-ISO 9001 Submissions | |
| Improvement of value for customers | - Improve value for customers through the continued improvement of QM-ISO 9001 Submissions | - Improved value of QM-ISO 9001 Submissions | |
| Diversity and | | | |
| Inclusion | - Double the number of female managers and experts (with same roles and responsibilities) by fiscal year 2024, from 10% in fiscal year 2019 | - 23% (Achieved Percentage of female managers: 2.3% (prior), 5.8% (current)) | |
| People and | | | |
| Workforce | - Foster a culture of learning and development in the workplace through | - 1.0 (prior), 2.4 (current) | |
| - Leader development program | - Provision of personalized global learning opportunity, and support for career development throughout working life | | |
| Work-life | | | |
| balance | - Reach at least 75% take-up rate of annual paid leave | - 62.5% (prior) | |
| Health and | | | |
| Safety | - Reduce accidental injury cases by 45% compared with the fiscal year 2020 level (2021), increase by 10 points by fiscal year 2022 (compared with fiscal year 2019) | - Achieved 6.2 points (prior), 9.2 points (current) | |
| Governance | - Continue to improve on issues identified in evaluations of the effectiveness of the Board of Directors | - Revised Board of Directors Regulations and established the Executive Business Meeting to improve the effectiveness of the Board of Directors | |
| Risk management | - Prioritize an integrated risk management system throughout our Group | - Establish risk management committee | |
| Compliance | - Achieve 100% recognition among employees concerning internal controls | - Achieve 100% recognition among employees concerning internal controls | |
| Environmental | | | |
| management | - Reduce energy consumption by ¥100 from the fiscal year 2020 level (per-unit basis) at each plant or office | - Achieved target of 0.5% per plant or office | |
| Supply chain | | | |
| management | - Implement supply chain CSR Assessments for the following processes: material suppliers. Covering at least 80% of our procurement spend | - Achieved goal of 8% of plants or offices | |
| Management foundation | - Continue to improve on issues identified in evaluations of the effectiveness of the Board of Directors | - Revised Board of Directors Regulations and established the Executive Business Meeting to improve the effectiveness of the Board of Directors | |
| Customer responsiveness | - Solutions that create value for customers | - Increase TDK Electronic value to customers | |
| Improvement of customer satisfaction | - Maintain the previous year’s global patent application rate (±5%) | - Achieve evaluations of "very satisfied" or "satisfied" for 96.7% (achieved in 29 of 30 questions) | |
| Higher productivity | - Promote an integrated risk management system throughout our Group | - Target a 5% improvement in operational efficiency as a medium-term goal | |
| Quality management | - Achieve evaluations of "very satisfied" or "satisfied" for 96.7% (achieved in 29 of 30 questions) | - Achieve evaluations of "very satisfied" or "satisfied" for 96.7% (achieved in 29 of 30 questions) | |
| Improvement of value for customers | - Improved value for customers through the continued improvement of QM-ISO 9001 Submissions | - Improved value for customers through the continued improvement of QM-ISO 9001 Submissions | |
| Diversity and | | | |
| inclusion | - Implement initiatives to make the ratio of female employees equal to or greater than the ratio of general workforce in each region | - Implement initiative to make the ratio of female employees equal to or greater than the ratio of general workforce in each region | |
| People and | | | |
| Workforce | - Foster a culture of learning and development in the workplace throughout our Group | - Foster a culture of learning and development in the workplace throughout our Group | |
| Work-life | - Reach at least 75% take-up rate of annual paid leave | - Achieved target of 0.5% per plant or office | |
| Health and | | | |
| Safety | - Reduce accidental injury cases by 45% compared with the fiscal year 2020 level (2021), increase by 10 points by fiscal year 2022 (compared with fiscal year 2019) | - Achieved target of 0.5% per plant or office | |
| Governance | - Continue to improve on issues identified in evaluations of the effectiveness of the Board of Directors | - Revised Board of Directors Regulations and established the Executive Business Meeting to improve the effectiveness of the Board of Directors | |
| Risk management | - Prioritize an integrated risk management system throughout our Group | - Establish risk management committee | |
| Compliance | - Achieve 100% recognition among employees concerning internal controls | - Achieve 100% recognition among employees concerning internal controls | |
| Environmental | | | |
| management | - Reduce energy consumption by ¥100 from the fiscal year 2020 level (per-unit basis) at each plant or office | - Achieved target of 0.5% per plant or office | |
| Supply chain | | | |
| management | - Implement supply chain CSR Assessments for the following processes: material suppliers. Covering at least 80% of our procurement spend | - Achieved goal of 8% of plants or offices | |

#### FY2022

<table>
<thead>
<tr>
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| Product
| Competitiveness | | | |
| - Tackling technological innovation | - Ensure that 20% or more of three-year moving average of all equipment models are new products for next-generation technologies | - Achieved 80% or more of our procurement spend | |
| - Maintain the previous year’s global patent application rate (±5%) | - Achieved 80% or more of our procurement spend | | |
| Environmental | | | |
| - Contribution to environmental improvement | - Reduce CO2 by 60% or more of CO2 by fiscal year 2025 (compared with fiscal year 2014) | - Reduce CO2 by 60% or more of CO2 by fiscal year 2025 (compared with fiscal year 2014) | |
| Customer | | | |
| - Creativity and innovation | - Increase TDK Electronic value to customers | - Increase TDK Electronic value to customers | |
| Improvement of customer satisfaction | - Maintain the previous year’s global patent application rate (±5%) | - Achieve evaluations of "very satisfied" or "satisfied" for 96.7% (achieved in 29 of 30 questions) | |
| Continuous | | | |
| improvement of business operations | - Promote an integrated risk management system throughout our Group | - Target a 5% improvement in operational efficiency as a medium-term goal | |
| Quality | | | |
| Management | - Achieve evaluations of "very satisfied" or "satisfied" for 96.7% (achieved in 29 of 30 questions) | - Achieve evaluations of "very satisfied" or "satisfied" for 96.7% (achieved in 29 of 30 questions) | |
| Diversity and | | | |
| inclusion | - Implement initiatives to make the ratio of female employees equal to or greater than the ratio of general workforce in each region | - Implement initiative to make the ratio of female employees equal to or greater than the ratio of general workforce in each region | |
| People and | | | |
| Workforce | - Foster a culture of learning and development in the workplace throughout our Group | - Foster a culture of learning and development in the workplace throughout our Group | |
| Work-life | - Reach at least 75% take-up rate of annual paid leave | - Achieved target of 0.5% per plant or office | |
| Health and | | | |
| Safety | - Reduce accidental injury cases by 45% compared with the fiscal year 2020 level (2021), increase by 10 points by fiscal year 2022 (compared with fiscal year 2019) | - Achieved target of 0.5% per plant or office | |
| Governance | - Continue to improve on issues identified in evaluations of the effectiveness of the Board of Directors | - Revised Board of Directors Regulations and established the Executive Business Meeting to improve the effectiveness of the Board of Directors | |
| Risk management | - Prioritize an integrated risk management system throughout our Group | - Establish risk management committee | |
| Compliance | - Achieve 100% recognition among employees concerning internal controls | - Achieve 100% recognition among employees concerning internal controls | |
| Environmental | | | |
| management | - Reduce energy consumption by ¥100 from the fiscal year 2020 level (per-unit basis) at each plant or office | - Achieved target of 0.5% per plant or office | |
| Supply chain | | | |
| management | - Implement supply chain CSR Assessments for the following processes: material suppliers. Covering at least 80% of our procurement spend | - Achieved goal of 8% of plants or offices | |
Value Creation Model

We will make the most of the capital we own and continue to provide new value that contributes to the resolution of issues and development of industry and society through our business activities in research and development, procurement and manufacturing, sales and installation and maintenance services in our value chain.

**Input (investment capital)**
- Financial capital
  - Net assets: 1,024.5 billion yen
  - Equity ratio: 71.1%
- Manufactured capital
  - Manufacturing sites: 9 total (6 in Japan and 3 overseas)
  - Manufacturing-related capital investment: 136.6 billion yen
  - Many years of know-how and proven performance in mass production
  - Production capacity and capabilities that can respond to increases in demand
- Intellectual capital
  - R&D sites: 12 total (6 in Japan and 6 overseas)
  - R&D investment: 136.6 billion yen
  - Broad-ranging knowledge and technological capabilities in semiconductor and flat panel display (FPD) manufacturing processes
  - Customer needs and equipment-related data obtained from installed equipment base
  - Infrastructure for promoting digital transformation (enterprise system/database/talents and skills)
- Human capital
  - Number of employees: 14,479
  - Proportion of engineers: 66.9%
  - Resilient and able to perform globally
  - Employee skill-upgrade programs and human resource development
- Social and relationship capital
  - Foundation for business activities in local communities
  - Relationship of mutual trust with customers built through many years of performance records
  - Solid cooperative working relationships with suppliers
- Natural capital
  - Energy consumption: 94,640 kl
  - Water consumption: 1,397 km³

**Output (value created through business activities)**
- Net sales: 1,399.1 billion yen
- Operating margin: 22.9%
- Net income: 242.9 billion yen
- ROE: 26.5%
- Total annual dividend: 121.9 billion yen (payout ratio: 50%)

**Outcome (value provided to industry and society)**
- Financial capital
  - Returning generated profit to stakeholders
  - Building a solid financial foundation
- Manufactured capital
  - Contributing to customers' product manufacturing and the growth of semiconductor and FPD markets through the Best Products
  - Contributing to customers' fab utilization rate and yield improvement through the Best Technical Service
- Intellectual capital
  - Providing leading-edge technologies to contribute to technological innovation and manufacturing in semiconductors and FPDs
  - Operating a fair and sound business that respects intellectual property rights
  - Providing new value to industry and society through technological innovation
- Human capital
  - Creating fulfilling workplace environments that motivate employees
  - Improving value provided to stakeholders by cultivating employees with a high level of engagement
  - Building a sustainable operation
- Social and relationship capital
  - Maintaining soundness and strengthening competitiveness throughout the entire supply chain
  - Contributing to customer value creation by providing the Best Products and Best Technical Service
  - Contributing to the revitalization of and sustainable development in local communities
- Natural capital
  - Implementing products and business activities that have a low environmental impact and help to preserve the global environment
  - Providing technologies that help customers manufacture semiconductors and FPDs that have a low environmental impact
Research and Development

Research and Development for the Future

Digital technology is becoming an increasingly familiar part of people’s lives, such as online education and medical services, remote work, and the emergence of various services utilizing AI. The evolution of IT applications and the diversification of services are expected to continue. As a support for the evolution of such digital technology, semiconductors will become increasingly necessary in the future, and more advanced and diversified technologies will be required for semiconductor manufacturing. At Tokyo Electron, we discuss the role we should play for the future on a daily basis, and we are working company-wide on research and development with an eye on future technology markets.

Market Heading toward Diversification

Moore’s Law

Improved performance through transistor integration

Applications increase as manufacturing technologies diversify

Development System

In the ever-diversifying area of semiconductor production technology, we have built a system to bring high-value-added products into the market in a timely fashion, promoting technology development and technology innovation for the next generations with collaboration between our Development & Production Group and Business Group. We share technology roadmaps spanning multiple generations for the future with our customers, and work with relevant divisions across the company in converting that technology to equipment in anticipation of their needs. Specifically, the Corporate Innovation Division, which is headed by the Representative Director, President & CEO, along with the development divisions of the manufacturing sites in Japan and the marketing departments of business units, are leading efforts to enhance process integration capabilities based on our wide lineup of semiconductor production equipment and to promote and develop digital transformation using AI technology. In January 2020, we established TEL Manufacturing and Engineering of America to optimize development and manufacturing functions and improve operational efficiency not only in Japan but in the U.S. as well. Since then, the company has been pushing ahead with activities.

Furthermore, with regard to environment, health and safety (EHS), which is becoming increasingly important as societal demands escalate, the EHS Council, which oversees our entire company, is playing a pivotal role in promoting the review and formulation of basic policies. Each of our manufacturing sites in Japan are also actively working to improve operational efficiency not only in Japan but in the U.S. as well. Since then, the company has been pushing ahead with activities.

Corporate Senior Staff (CSS)

- CSS: Composed of Vice Presidents and General Managers of Tokyo Electron, Presidents from overseas subsidiaries

SDGs initiatives

- Create innovative technologies by promoting innovation to help develop a sustainable society
- Contribute to the reduction of environmental impact throughout the company by providing products and services that are conscious of the environment

Main activities

Research and Development

Research and development for the future, Development system, Shift Left, Product marketing, Collaboration with consortiums and academia, Intellectual property management

Tackling technological innovation

Research and development for next-generation computing, Promoting digital transformation (DX), Support for evolving displays

Medium-term Goals

Create Strong Next-generation Products

With semiconductors and flat panel displays becoming increasingly important as social infrastructure due to the progression of digital transformation and the expanded implementation of information and communication technologies, there is a demand for highly advantageous equipment that responds to diversifying needs. Tokyo Electron creates the best, high-value-added equipment with innovative technology in a timely manner through the development of product marketing and the global promotion of research and development with an eye on future generations. We also continuously strive to reduce the environmental impact of our equipment. By providing technology that contributes to the development of devices with even lower power consumption, we endeavor to preserve the global environment. We contribute to the development of industry and society through innovative technologies and environmental initiatives.

Research and Development

Research and development for the future, Development system, Shift Left, Product marketing, Collaboration with consortiums and academia, Intellectual property management

Tackling technological innovation

Research and development for next-generation computing, Promoting digital transformation (DX), Support for evolving displays

SDGs initiatives

- Create innovative technologies by promoting innovation to help develop a sustainable society
- Contribute to the reduction of environmental impact throughout the company by providing products and services that are conscious of the environment

![Moore's Law Diagram](Image)

- Applications increase as manufacturing technologies diversify

Digital technology is becoming an increasingly familiar part of people’s lives, such as online education and medical services, remote work, and the emergence of various services utilizing AI. The evolution of IT applications and the diversification of services are expected to continue. As a support for the evolution of such digital technology, semiconductors will become increasingly necessary in the future, and more advanced and diversified technologies will be required for semiconductor manufacturing. At Tokyo Electron, we discuss the role we should play for the future on a daily basis, and we are working company-wide on research and development with an eye on future technology markets.
Product Competitiveness

Shift Left

We are focused on advancing the Shift Left approach, investing resources (including technology, personnel and money) into the early processes of product development. Together with customers who conduct research with a vision beyond the next generation and who aim to accelerate the speed of development further, we have created a technology road map, and are engaged in developing the various technologies required for its realization.

In fiscal year 2021, responding to the ongoing customer need for production equipment to take up less space, we succeeded in improving equipment efficiency per unit area by maximizing the use of clean rooms and providing more productive equipment. We also established new goals and strengthened our efforts to meet the environmental demands of customers for equipment.

Through promoting the Shift Left approach, we are endeavoring to understand customer needs at an earlier stage and to strengthen feedback from front-line service engineers, and by reflecting the information obtained through this in the development of technology, we can propose superior products that contribute to maximizing yield for customer devices and capacity utilization of their mass production line equipment. We also promote on-site collaboration for early delivery of evaluation units at customers’ plants and research and development laboratories, shortening technology development periods, and then increasing mass production equipment and maximizing efficiency.

Product Marketing

We are promoting effective product development by having our sales departments and product marketing departments appropriately play their respective roles. Our sales departments are responsible for building relationships of trust with customers and ensuring that products and services are provided through business to the customers they serve. Meanwhile, our product marketing departments plan and manage product strategies that meet the future needs of customers in target markets, such as development planning to increase the value of customer products and services, and the examination of value-adding mechanisms. They also consider the commercialization of technology, and the addition of functions based on the needs of our development divisions, and formulate strategies for collaborating with partner companies and consortiums.

Our sales departments and product marketing departments work together in developing marketing activities that contribute to customers’ products by anticipating market needs, and in doing so, help improve our product competitiveness and promote our Shift Left approach.

Collaboration with Consortiums and Academia

We are enhancing our own research and development capabilities through collaboration with international and domestic consortiums which allows us to further our development of leading-edge technologies. Specifically, we are focusing on collaboration in a wide range of areas, from development to market launch of rapidly evolving technologies and applications. This is achieved through participation in a global research hub developing next-generation AI hardware, by cooperating with BRIDG, a not-for-profit, public-private partnership located in the U.S. state of Florida, by strengthening collaboration in the field of EUV at imec and by accelerating our research in the front-end and back-end fields at TCCRA.

We are also working on various collaborations with academia, including major universities in Japan. In particular, we are promoting collaboration in a wide range of fields with the National Institute of Advanced Industrial Science and Technology (AIST)—one of Japan’s largest public research institutions—including the MRAM®-related research that we have been working on for some time in the field of semiconductor development, which is becoming increasingly diverse, we will further strengthen our own research and development by leveraging AIST’s world-leading research environment and world-class research staff.

Initiatives in Japan

Since 2018, we have been conducting a joint research selection program with universities with the aim of discovering and collaborating on advanced technology in relation to semiconductors. Over the past three years, 16 topics have been chosen for joint research. Although applicants are free to propose any research topics, we adopt those proposals that match our technological abilities and which are expected to help develop our technological and planning capabilities and contribute to the future development of our business areas through the creative perspectives and ideas only possible in academia. Technical advisors selected from our development divisions and business units (BUs) are in charge of selecting topics, with subsequent joint research activities managed by a secretariat. Technical advisors strive to generate research results by promoting technical assessment with the university, and at the end of the research period, where outcomes are found to be effective, the topics are considered by our BUs for ongoing research.

In addition to promoting the development of a wide range of semiconductor-related technology and devices, we are promoting the selection program in an effort to contribute to the evolution of science and technology and the revitalization of research activities at universities.

Intellectual Property Management

Our fundamental tenet for intellectual property (IP) is to protect our intellectual assets and contribute to increasing corporate revenue through the support of our business activity.

In our uniquely evolving industry, we have increased the global investment in research and development, including industry-academia collaborative initiatives that synergistically grow our business. We establish regional IP offices, as well as corporate headquarters, to locate IP personnel at research, development, and production sites worldwide. These IP personnel assess each project from various angles, including R&D and marketing perspectives, building IP portfolios aligned with technology, and product strategies in an effort to boost competitiveness.

We sustained our worldwide advantage in the IP strength again in calendar year 2020. 1,180 inventions were created in Japan, and 120 were created in other countries. We have maintained a global patent application rate of approximately 70% for the tenth consecutive year and achieved high-patent approval rates (83% in Japan and 87% in the United States). The number of joint patent applications in collaboration with other companies, universities and other research institutes around the world has reached 25, with 13 companies and 8 organizations in the last two years.

To increase IP awareness, we have continuously educated our engineers, who are the foundation of our R&D strategy, and in total, around 4,370 engineers have become inventors. Additionally, because we often handle highly confidential information, including technological information of our customers and collaborative partners, we have also focused on confidential information education.

<table>
<thead>
<tr>
<th>Consortiums</th>
<th>Tokyo Electron Development Sites</th>
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<tbody>
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4,370 Global patent application rate: Percentage of applications filed as international applications in multiple countries.

CEA-Leti, IME, and Micron Technology are not included.
Tackling Technological Innovation

Research and Development for Next-Generation Computing

Global demand for semiconductors has been increasing in recent years, and the production volume of semiconductors is expected to continue increasing. Under such circumstances, reducing the power consumption of semiconductors has become a major issue. We recognize this issue as an energy supply risk in the market, and we are working for a solution.

Modern computing is not necessarily optimized for power efficiency. The mainstream solution to this problem is to optimize the architecture, placing memory devices closer to logic devices (arithmetic circuits), resulting in a considerable reduction in power consumption. One of the technologies that make this "optimization of architecture" possible is 3D system integration. Also called "heterogeneous integration", 3D system integration technology is one that combines and packages different materials such as silicon and non-silicon elements, CPUS, and DRAMs. Specific combinations applying this technology are expected to reduce power consumption to between 1/100th and 1/1000th of conventional architecture.

Furthermore, the development of resistive analog neural devices and nonvolatile resistive random access memory that simulate the human brain is essential to the evolution of AI technology, and our film deposition technology is contributing to this.

Realizing next-generation computing requires the development of AI chips with even faster processing and greater energy efficiency. By taking maximum advantage of a wide range of technologies and various techniques, we are working to create high-value-added products that meet the next-generation need of bringing computers closer to the human brain. To this end, we are expanding further the technological areas in which we can contribute, such as developing new materials and boosting the performance of chips through 3D system integration, and we are rolling out initiatives aimed at optimizing the power efficiency of semiconductors and realizing next-generation computing.

Support for Evolving Displays

With the evolution of communications technology such as IoT and 5G, further performance improvements are also expected for displays that project all kinds of information into the real world. In addition to higher image quality and lower power consumption, there is also a growing need for built-in sensors and greater flexibility of design. Organic Light Emitting Diode (OLED) displays, which are used widely in smartphones and televisions, are expected to expand to a wide range of applications, including IT and automotive, because of their high image quality and design qualities. Foldable displays, in particular, are predicted to further expand the potential of information devices. Along with the growing demand for such high-performance displays, control technology for defect modes and stable performance are becoming more important than ever for FPD production equipment. Furthermore, as the number of manufacturing processes increases, so too does the need to use energy and materials more efficiently in order to successfully reduce environmental impact.

Our product lineup includes the Impreza™ and the Beletrix™ FPD etch/ash systems, the Exceltron™ FPD coater/developer and the Elusii™ inkjet printing system for manufacturing OLED displays. Impreza and Beletrix use PICP™, a plasma module with improved energy efficiency, reducing power consumption by up to 20%, and achieving precise processing and stability in mass production. We have also released PICP™ Pro, a new plasma module for high-definition displays, which achieves both yield improvements and mass production stability by reducing the generation of particles. The Exceltron, equipped with our original Air Floating Coater, permits higher throughput while maintaining excellent film uniformity and saving chemical costs. The Elusii inkjet printing system can significantly reduce the amount of OLED materials used in the manufacturing process compared to conventional vapor deposition methods, and is also suited to production on large substrates. We are proceeding with development and sales of the Elusii series ahead of the imminent era of large, high-definition OLED.

We will continue contributing to the further development of diverse display products, tackling effective technological innovation based on market needs such as improving productivity and yield and using energy and materials more effectively.

We are also proceeding with the practical application of TELMetrics™, which remotely connects our company with our customers' manufacturing sites, thereby enabling remote maintenance, as well as remote support for equipment using AR™ smart glasses and material searches utilizing AI.

Furthermore, we are also systematically recruiting and training human resources to utilize data science in our business. In November 2020, we relocated our Sapporo office, a software development site, and established TEL Digital Design Square as our home base for DX activities. It is also increasing leading-edge facilities and adopting a hot-desking system to develop software technology, we will put effort into recruiting and training data scientists, data analysts and other human resources necessary for DX to utilize data science in our business.

Based on the belief that utilizing digital technology can contribute to everything from accelerating the speed of development, improving productivity and quality, and enhancing business efficiency to reimagining workstyles, we are working on greater DX promotion.

Example Initiative

In the adjustment of film stress (target value: -100 to 0 MPa) using plasma-enhanced atomic layer deposition (PE-ALD), we used AI-based machine learning to consolidate and analyze past test data and optimize the process in order to overcome the inability of the previous method to achieve film stress requirements using engineers. As a result, we were able to not only resolve this issue but also contribute to reducing wafer consumption. By making use of AI as a member of the team without being bound to conventional thinking, support and practices, engineers will be able to perform work with high added value.
Main activities

- **Solutions that create value for customers**
  Systems for creating value for customers, Proposing customer solutions leveraging a broad portfolio of products

- **Ensuring safety for customers**
  Providing information to customers, Global expansion of training for customers, Safe design of equipment

- **Initiatives for field solutions**
  Field solutions business, Advanced logistics, Total Support Center, Knowledge management, Remote support system, Upgrading engineers’ skills

- **Improvement of customer satisfaction**
  Customer satisfaction survey

**SDGs initiatives**

- Contribute to customer innovation generation and value creation through the proposal of optimal solutions and innovative technologies
- Ensure a sustainable form of production and consumption throughout product life cycles by considering safety and the environment
- Support the stable operation of various generations of equipment while further improving productivity and promoting reuse and recycling

**Medium-term Goals**

Be the Sole Strategic Partner

Tokyo Electron helps customers manufacture cutting-edge devices by maintaining an accurate and timely grasp on customer needs and providing innovative technologies for future generations. As a production equipment company with a diverse product range, we propose optimal solutions contributing to value creation for customers.

Making full use of state-of-the-art AI and digital technologies, we also provide high-value-added maintenance services that support the stable operation of equipment. We strive to further enhance customer satisfaction, which is a key management theme we have tackled since our founding, aiming to be the sole strategic partner for customers.

**Proposing Customer Solutions Leveraging a Broad Portfolio of Products**

In a market where applications for semiconductors are ever-expanding, in order to meet the needs of production sites, such as improved yield and improved equipment efficiency per-unit area through enhanced productivity and smaller footprints, we are practicing product development initiated from the customer perspective.

Two of our divisions work closely together in turning that perspective into products. Specifically, our Account Sales Division identifies customer demands for next-generation technology and beyond, and based on these, our Corporate Innovation Division reviews the requirements and converts them into actual, tangible products.

In a market where applications for semiconductors are ever-expanding, in order to meet the needs of production sites, such as improved yield and improved equipment efficiency per-unit area through enhanced productivity and smaller footprints, we are practicing product development initiated from the customer perspective.

In addition to developing leading-edge technologies, we are also continuously improving the performance of our mass production equipment, so that we can proactively respond to the needs of our customers spanning multiple generations. In proposing solutions to customers, we leverage a broad portfolio of equipment, including those used in the series of key patterning processes requiring advanced technical abilities, such as deposition, coating/development, etching, and cleaning. Through optimal solutions that incorporate systems and software in addition to production equipment, we seek to optimize the production process. We strive to develop products that help strengthen our customers’ competitiveness by achieving a balance between faster and better-quality semiconductor production.
Initiatives for Field Solutions

Field Solutions Business

In the area of semiconductors, as improvements are made in the performance of CPUs1 and memory, as advances are made in miniaturization for mass production and as transistors used in autonomous driving systems and VR2/AR become increasingly integrated, demand is increasing across a wide range of fields, such as medical treatment, finance, transportation and manufacturing. To meet this demand, it is becoming extremely important for our customers to improve the utilization rate of their equipment. We are working to further strengthen our field solutions business with the aim of ensuring that shipped equipment can operate stably in the market over a long period. We are engaged in promoting knowledge management in field service, continuously improving our field engineers’ skills, and strengthening our global support system through Total Support Centers (TSCs). Furthermore, in order to comply with various regulations due to COVID-19, including restrictions on overseas travel and isolation measures when traveling internationally, we will help to maximize our customers’ business operations by proceeding to develop remote maintenance support and educational tools.

Advanced Logistics

As demand grows for semiconductors in a wide range of industries, we are working hard to further strengthen our logistics to secure a stable supply of equipment and parts, not only in response to the spread of COVID-19 and unseasonably bad weather, but also from the perspective of our business continuity plan. As part of building systems that enable us to provide customers with a continuous supply of equipment and parts, in March 2021, we began operation of our second logistics center in Japan, a 6,000 m² facility located in Funabashi City, Chiba Prefecture. The center will be operated using third party logistics (3PLs), whereby both physical distribution and warehouse operations are outsourced to a single company, and in the future, in addition to considering expansion of the facility to cope with increased shipments, we will aim for an efficient and flexible logistics system capable of responding to change. The full-scale operation of this new logistics center will enable us to provide our customers in Japan with a more stable supply of equipment and parts. In the future, to further strengthen our response to overseas customers, we will continue to build our logistics, including the expansion of facilities.

Total Support Center

Having established Total Support Centers (TSCs) in Japan, the United States, China and Europe, we will support overseas subsidiaries through our global network centered around Japan. At each TSC, dedicated representatives maintain and utilize a database of information about customers’ equipment and examples of similar incidents. The TSCs also employ TELeMetrics™ to perform remote maintenance. In fiscal year 2021, we established a system where TSCs around the world support each other, taking advantage of time differences in each region. These initiatives have enabled us to respond to inquiries and problems from customers around the world with greater speed and precision than ever before.

Knowledge Management

We promote knowledge management throughout the entire Group so that we can deliver high-quality service swiftly to our customers. In the area of field service, we have built Service CRM™ so that we can create a database and centrally manage customer equipment support and incident histories. Service CRM™ began operating in Japan in fiscal year 2020 and is currently being rolled out globally.

In addition, by taking advantage of knowledge management tools such as Equipment Records and Knowledge Search, comprehensive searches can be performed on multiple systems, helping to reduce the amount of time spent on work. Equipment Records enables batch searches of equipment work histories based on equipment serial numbers, including past repair information for customers and parts replacement histories. Knowledge Search, which was revamped in October 2020, enables users to enter keywords of equipment-related problems to carry out batch searches of files and documents saved in the database based on past trouble information. In fiscal year 2022, we are working on making the tools multilingual so that, in addition to Japanese and English, they can also support Korean and Chinese. Not only by increasing the number of languages supported to improve the work efficiency of our globally active field engineers, but also by promoting efforts to manage the various systems throughout the entire Group using One Platform™, we will strive to further improve our customer responsiveness.

Remote Support System

We promote remote support using TELeMetrics™ to minimize any downtime of production equipment, to detect abnormal operation before any major defect occurs and to support the stable operation of equipment. With the growing need to support field engineers remotely due to travel restrictions and various state regulations as a consequence of the spread of COVID-19, we worked on developing an advanced remote support system whereby audio and video from a customer’s manufacturing site can be shared in real time and the confidentiality of information can be better enhanced.

Starting in fiscal year 2021, we have also been working to enhance the convenience and quality of remote support by adding our own unique features to our existing smart glasses™ system, including information protection, restricted image transmission and phone translation.

Unique Features Added by Tokyo Electron

- **Information Protection**: Security functions for protecting information in case of loss or theft
- **Restricted Image Transmission**: Information security technology whereby only necessary images are transmitted
- **Phone Translation**: Feature that converts voice and displays a translation (multilingual support)
- **Dangerous Area Function**: Function that warns the wearer when approaching a preset dangerous area

Support from a Global Network of TSCs
Customer Responsiveness

Upgrading Engineers’ Skills
At our training operations center established in 2019 to enhance the training structure and globalization of field engineers, a group-wide common skills management system has been established that meets the standards of SEMATECH (a U.S. consortium for the joint development of semiconductors). The system helps us to deploy the most suitable human resources to provide customers with service based on an objective understanding of the skills of our engineers.

In fiscal year 2021, we began providing education for expert engineers to improve the skills of engineers at our overseas subsidiaries. The education includes training programs that enable technical support engineers from overseas to learn advanced development skills in a practical manner at our manufacturing sites in Japan. Furthermore, established in fiscal year 2021, our Global Data Engineering Team is also rolling out a program designed to train field engineers as data analysts specializing in Digital Transformation.

Ensuring Safety for Customers

Providing Information to Customers
Tokyo Electron is committed to providing sufficient safety information on our products to ensure that customers can safely use them. All products purchased by customers come with a TEL Safety and Environmental Guidelines manual. The manual describes examples of potential risks associated with using our products together with the methods for averting those risks, as well as safety measures applied to products and recommended methods for product disposal. It is divided into such categories as chemical, electrical, mechanical and ergonomic. The manual is available in 12 languages to ensure that customers around the world can understand the content accurately and safely use the products. In addition to the TEL Safety and Environmental Guidelines manual, customers are also provided product-specific manuals tailored to the relevant product specifications.

If new safety warnings are identified after the product ships, we provide information to affected customers. We also strive 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.

Global Expansion of Training for Customers

We have established training centers all over the world, mainly at our development and production sites, and are providing customers with training on equipment operation and maintenance to ensure they are able to use the products safely. In fiscal year 2021, demand for Web-Based Training (WBT) and Remote Training increased as a result of the difficulty in holding equipment training on-site because of COVID-19. While we have started remote training for much of our equipment, we are working to improve the content and quality of our WBT and remote training by sharing the equipment and methods we introduced with each of the training centers. Going forward, we will continue to give priority to customer safety as we promote further development of our training environment.

Safe Design of Equipment

Taking the entire product life cycle into consideration, we carry out product risk assessments as early as possible in the development phase. Based on the assessment results, we implement safe equipment design to reduce the risks posed to humans. We also examine and ensure compliance with increasingly strict laws and regulations around the globe, and have a system in place for all safety regulations of the regions where our equipment is delivered.

We conduct compliance checks through third-party assessment bodies on the equipment we ship to ensure compliance with international safety standards such as SEMI S2® and CE-Marking®. Additionally, we work with overseas subsidiaries to take appropriate measures to comply with the laws and regulations of each country and region.
Promotion of Improved Productivity

Continuous Improvement of Business Operations

Tokyo Electron is currently introducing a new enterprise system (ERP) to improve productivity and quality further. The new ERPs, being integrated across operational and national boundaries, is aimed at creating the following five benefits: (1) compliance with the new revenue recognition standards in Japan; (2) business and management decision making with quick response to change; (3) large improvements in business operation efficiency; (4) utilization of globally integrated information with an eye toward overall digital transformation; and (5) realization of ultimate work style reform. Beginning with business operational improvement, we are contributing to the resolution of issues from COVID-19 with global progress in the expansion of telecommuting, the shift to online approval operations, and overall digitalization.

In fiscal year 2021, we made progress in communication and consensus-building that included our headquarters, manufacturing sites in Japan, and overseas subsidiaries, as well as partner companies, to form a globally unified team toward business innovation. In May 2021, the new ERPs began operation, primarily at our headquarters. While making the most of the knowledge gained from this process and the results, we plan to realize a true globally integrated system, with project members and all our employees working as one.

Initiatives for Higher Productivity

As a manufacturer of semiconductors and flat panel display production equipment, we are committed to continuously improving productivity while remaining focused on safety and quality in operations along the entire value chain. Specifically, under the slogan “Safety First”, we are striving to improve the safety and work environments of every person connected with our business activities, and we are building quality management systems and pursuing quality improvement in the value chain in order to understand the true needs of our customers and to achieve the world’s best quality. We are also conducting company-wide activities for compliance with safety and environmental laws and regulations and to make software development more efficient and smarter. In manufacturing operations, our current initiatives include BOM4 production, module shipment5 for repeat orders and the building of flow lines6.

Furthermore, to respond swiftly to customer requests and market fluctuations, we are improving our IT infrastructure and computerizing on-site data by establishing a production system that centralizes all production-related information and introduces a manufacturing execution system (MES7). By utilizing the wide range of data aggregated through these systems in each business operation, we can make production schedules more reasonable and more efficient, visualize delivery dates for parts, and achieve stronger coordination between sales planning and production/procurement/inventory planning. In this way, we will comprehensively promote higher productivity in business operations.

In our manufacturing and logistics operations, where we deal with a wide variety of components, we are also working on labor savings and efficiency improvements by establishing automated warehouses, introducing a warehousing navigation system and promoting automated inspections.

Medium-term Goals

Continually Improve Operational Efficiency

Tokyo Electron is striving to promote the standardization and automation of operations and improve productivity along the entire value chain, such as through the development of an enterprise resource planning system and the integration of business systems in each division and unification of databases. In addition, recognizing the importance of quality management, we are striving to further improve business efficiency by implementing quality focus operations. We are enhancing the awareness and capabilities of each employee regarding productivity by rolling out various educational programs. In addition, we are implementing continuous quality improvement activities throughout the entire supply chain in collaboration with suppliers. We will strive to enhance corporate value, constantly pursuing improved productivity.

Main activities

Promotion of improved productivity
Continuous improvement of business operations, Initiatives for higher productivity, Software development initiatives

Productivity improvement in the value chain
Approach to quality, Management system, Ensuring self-process assurance systems and promoting “Shift Left”, Measures to prevent quality problems from occurring and recurring, Initiatives with suppliers

SDGs initiatives

- Promote productivity, continuously increase management efficiency, contribute to the development of the industry and society, and contribute to sustainable economic growth
- Promote streamlined business operations and quality management throughout the value chain, ensuring sustainable forms of production and consumption
- Continuously increasing productivity throughout the entire supply chain through partnerships with suppliers

Overview of the New Enterprise System

[Diagram showing the IT System and Key Processes including Sales CRM (Opportunities and Forecast), Schedule (Plan), Product Lifecycle Management (Design), Supply Chain Management (Procurement), Manufacturing Execution System (Manufacturing), Warehouse Management System (Warehouse), Global Trade Management (Export), Service CRM (Field Support), ERP (Sales, Inventory, Accounting), etc.]

Notations:
1. MES: Manufacturing Execution System
2. DX: Refer to p. 19
3. ERP: Enterprise resource planning
4. BOM: Bill Of Materials
5. Module shipment
6. Building of flow lines
7. ERP: Enterprise resource planning

Notations:
- SDGs: Sustainable Development Goals
- BOM: Bill Of Materials
- MES: Manufacturing Execution System
- ERP: Enterprise resource planning

End of Document
Software Development Initiatives

Streamlining Product Development and Improving Added Value

Since 1995, we have incorporated platform software developed in-house in our semiconductor production equipment and have worked on streamlining operations and improving product quality. By standardizing platform software, we have been able to reduce the hours spent on developing various types of duplicate functions for each type of equipment, leading to guaranteed real-time control and enhancement of our response to new demands and technologies. Having adopted such concepts as object-oriented 2, we are also working on more efficient development of new platform software for next-generation equipment.

In fiscal year 2021, as a new base for the digital transformation activities we are promoting, we established TEL Digital Design Square, and aim to further improve the added value that our products provide through software development.

Developing Smart Equipment

Amid advances in manufacturing that make the most of innovative technologies such as IoT and AI, our customers are forging ahead in improving productivity by taking advantage of visual representations of data and building smart fabs 3 to improve consistency in quality. Under these circumstances, we will provide advanced equipment operation services and promote “equipment data management” to further enhance the added value of equipment, based on the various types of data generated by customers’ equipment.

Productivity Improvement in the Value Chain

Approach to Quality

Tokyo Electron has defined its approach to quality as follows: “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.”

Quality Policy

1. Quality Focus

Focusing on quality to satisfy customers, meet production schedules and reduce required maintenance even with temporary cost increases.

2. Quality Design and Assurance

Building quality into products and assuring in-process quality control, from the design and development phase throughout every process.

3. Quality and Trust

When a quality-related problem occurs, working as a team to perform thorough root cause analyses and resolve problems as quickly as possible.

4. Continual Improvement

Ensuring customer satisfaction and trust by establishing quality goals and performance indicators and by implementing continual improvement using the PDCA cycle.

5. Stakeholder Communication

Listening to stakeholder expectations, providing timely product quality information and making adjustments as needed.

We strive to implement own-process assurance systems by carrying out strict risk management and development/design inspections beginning at the development stage and also by ensuring verification of customers’ operations using simulations. We have also built an important component traceability system as part of our effort to strengthen our information environment. By making it possible to use the One Platform 1 to view such information as past problems and adjustment values used during manufacturing and assembly, as well as important component inspection information from suppliers, we have successfully strengthened our risk management (FMEA 2) to prevent and mitigate various types of non-conformance. We believe that thorough implementation of these own-process assurance systems and prevention makes it possible for employees to focus on high-value-added business operations and promote initiatives that lead to Shift Left 3 (front-loading). We will continue to strive to provide high-quality and high-value-added products and services to our customers.

Management System

To provide consistent, high-quality products, we have built quality assurance systems under the leadership of our Representative Director, President & CEO. We have been promoting ISO 9001 quality management system certification, and all of our manufacturing companies within our group have completed the transition to ISO 9001.

ISO 9001 Certified Plants and Offices

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Higher Productivity

Example Initiatives

We are focused on process improvement activities (PCS) using a statistical method. Invariably, our customers’ production sites require limited variations in quality between equipment, accurate process repeatability and high productivity. To meet these requirements, we ask our suppliers who handle specific important components to understand the importance of PCS and cooperate with us. Putting the information acquired from various types of important components into control diagrams and carrying out trend analyses together with our suppliers allows us to quickly detect changes in manufacturing processes and take any necessary steps. These supplier activities and the continuous implementation of PCS activities in our manufacturing processes are leading to the suppression of component variability, maintenance/ improvement of manufacturing processes that produce quality products, ultimately helping us provide products surpassing customer expectations.

Ensuring Self-Process Assurance Systems and Promoting “Shift Left”

In order to improve the quality of products, it is important to prevent non-conformity from occurring in upstream processes and to ensure thorough quality control in each process so that nonconforming products are not allowed to flow into later processes. From this perspective, we promote activities focused on self-process assurance systems. In particular, we aim to improve the level of completion of product quality by implementing thorough risk detection and mitigation measures (FMEA) from the initial stages of product design, as well as carrying out thorough inspections in each process and conducting verification using simulation.

Measures to Prevent Quality Problems from Occurring and Recurring

To comply with ISO and EN3 safety standards and achieve higher safety levels, we have established our own design rules for each of our products. As an equipment manufacturer, we have developed systems for manufacturing products, which include safety considerations. We have other systems in place for responding to equipment design accidents. Furthermore, by managing the progress of the cases shared in QA-BOX and validating the effects of work to prevent a recurrence of the accident by analyzing the factors that led to the human error and creating results of an accident investigation are promptly applied, not only to the problem equipment but also to relevant conformance across all quality departments in accordance with our operating rules.

Initiatives with Suppliers

Continuously improving quality based on strong partnerships with suppliers is essential for providing high-quality products quickly to the market. Since fiscal year 2001, we have conducted our unique Supplier Total Quality Assessments (STQA) in an effort to ensure our suppliers properly understand the level of quality expected from them. Before starting a new business with suppliers, an STQA is conducted via self-assessment to evaluate their product quality, costs and information security. The assessment also includes their CSR initiatives, including human rights, ethics, safety and the environment. If a risk is identified, we visit the supplier and confirm the area of non-conformance on-site. Once our approach to quality has been shared with the supplier, we request that they plan and implement improvement measures, and we provide continuous support until all of them have been completed. In addition, we also conduct audits once every three years for suppliers who handle important components and for suppliers where quality issues have been found. Also, in the course of holding regular meetings with the leaders of various manufacturing sites in Japan who use STQA, a system shared by our whole Group, we share supplier-related information and discuss measures to resolve issues.

Additionally, Tokyo Electron Kyushu is working with its suppliers on its own improvement activities. For suppliers judged to require focused evaluation, we add technically focused check items to STQA based on past case examples of non-conformance, and carry out assessment to prevent recurrence. By continuing these activities, we technically strengthen preventive measures and increase their effectiveness, linking them to further quality improvement.

Example Initiatives

Having identified reduction of costs for dealing with defective components and unit parts at customer sites as a material issue, since March 2020, the quality assurance division at Tokyo Electron Technology Solutions have been promoting quality improvement activities focused on a single point. As part of these activities, we categorized defects at all business units (BU) by cause, and found that 33% were due to inadequate internal evaluation and 15% were related to our suppliers. There was also a tendency for defects attributable to inadequate internal evaluation to be higher for equipment using new technology and for large equipment such as flat panel display (FPDs), and defects related to our suppliers to be higher for other equipment. Based on analysis of the present situation, each BU raises quality improvements that warrant a concerted effort, and proceeds with measures while considering what quality should be like. For example, at DSEP Dept. (ES BU) and FPD BU, technical and quality assurance divisions cooperate with suppliers from the planning stage for new equipment, and by using FMEA to extract specific evaluation details, conduct evaluations that take into account the environment in which the customer will use the equipment. TFF BU and TS BU, meanwhile, have been conducting activities aimed at achieving zero defects for components and unit parts with a high frequency of defects, and defects related to our suppliers to be higher for other equipment. Based on analysis of the present situation, each BU raises quality improvements that warrant a concerted effort, and proceeds with measures while considering what quality should be like. For example, at DSEP Dept. (ES BU) and FPD BU, technical and quality assurance divisions cooperate with suppliers from the planning stage for new equipment, and by using FMEA to extract specific evaluation details, conduct evaluations that take into account the environment in which the customer will use the equipment. TFF BU and TS BU, meanwhile, have been conducting activities aimed at achieving zero defects for components and unit parts with a high frequency of defects, and defects related to our suppliers to be higher for other equipment.
**Corporate Governance**

Tokyo Electron upholds the vision of being “a truly global company generating high added value and profits in the semiconductor and flat panel display industries through innovative technologies and groundbreaking proactive solutions that integrate diverse technologies.” With over 80% of our sales coming from overseas, we regard building governance structure as essential in order to achieve success in global competition, realize our vision and achieve sustainable growth. To that end, we have built a framework to maximize the use of worldwide resources, and have worked to incorporate a wide range of opinions to strengthen our management foundation and technology base, establishing a governance structure capable of ensuring that we attain global-level earnings power.

We use the Audit & Supervisory Board System, which consists of a Board of Directors and an Audit & Supervisory Board, and has achieved effective governance based on the supervision of management by the Audit & Supervisory Board. Furthermore, in addition to the Board of Directors, whose role is to make major operational decisions and play a supervisory role in the executive management’s execution, and support appropriate risk-taking by them, we have established systems that facilitate growth-oriented governance directed at sustainable growth, including the following: (1) the Nomination Committee and Compensation Committee to ensure fair, effective, and transparent management; (2) the Corporate Senior Staff (CSS) to formulate and advance company strategy; and (3) the Business Execution Meeting, to play a role in deliberations of the executive management.

**Diagram of the Corporate Governance Framework, Internal Control System and Risk Management System**

**Sustainability of a Board of Directors**

As a leading company in semiconductor and flat panel display (FPD) production equipment, we believe that proactive risk-taking and a risk management structure to support it are essential for achieving sustainable growth. The Board of Directors guides its discussions in an appropriate direction by incorporating a wide range of opinions that stem from the extensive knowledge and experience of independent outside directors and Audit & Supervisory Board members in addition to executive directors who are well-versed in the business.

We have also established the Nomination Committee and the Compensation Committee as discretionary advisory bodies to ensure fairness, effectiveness, and transparency in management. Authorized to propose the appointment and dismissal of the CEO and corporate directors, the Nomination Committee has established guidelines on their required qualities and eligibility, as well as a trigger for considering the appointment and dismissal of the CEO, and strives to ensure the objectivity, timeliness and transparency of the procedures for appointment and dismissal. The Compensation Committee, on the other hand, reviews performance evaluations of the CEO and corporate directors along with the appropriateness of the amount of their compensation, with reference to advice from external experts.

Under such a system, we strive to operate the Board of Directors in a way that is appropriate for resolving management issues. In addition, in order to develop the next generation of human resources who will take over management of operations, we have established systems that facilitate growth-oriented governance directed at sustainable growth, including the following: (1) the Nomination Committee and Compensation Committee to ensure fair, effective, and transparent management; (2) the Corporate Senior Staff (CSS) to formulate and advance company strategy; and (3) the Business Execution Meeting, to play a role in deliberations of the executive management.

**Composition and Results of the Board of Directors, Nomination and Compensation Committee (In fiscal year 2021)**

<table>
<thead>
<tr>
<th>Committee</th>
<th>Composition</th>
<th>Number of Times Held</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nomination Committee</td>
<td>3 Independent Directors</td>
<td>3</td>
</tr>
<tr>
<td>Corporate Director</td>
<td>91</td>
<td></td>
</tr>
<tr>
<td>Compensation Committee</td>
<td>7 Independent Outside Director</td>
<td>7</td>
</tr>
</tbody>
</table>

**SDGs initiatives**

- Build a highly effective corporate governance system while strengthening risk management, and thoroughly enforcing compliance in order to build a strong and sound management foundation
- Promote environmental impact reduction activities and endeavor to preserve the global environment
- Progress sustainability initiatives throughout the entire supply chain
- Enhance engagement and build a work environment that respects human rights and diversity while maximizing individual abilities
Supervision and Evaluation of Strategic Decision-making

Setting our strategic direction is recognized as the main role of the Board of Directors. It engages in constructive debate of management strategy, plan management, and other matters. It serves as the venue for supervising progress on the Medium-term Management Plan and other matters. The Board of Directors also seeks to further support the business activities of the Board of Directors meeting as necessary. In addition to matters of particular importance, we establish a venue for dialogue between independent outside directors and Audit & Supervisory Board members, the administrative office provides them with explanations on proposals in advance of the Board of Directors meeting as needed. For matters that require special expertise, we establish a venue for dialogue between independent outside directors and Audit & Supervisory Board members and executive management, striving to provide sufficient information to, and engage in dialogue with, independent outside directors and Audit & Supervisory Board members.
Process for Evaluating the Effectiveness of the Board of Directors and Management Issues

To evaluate the effectiveness of the Board of Directors, including the Nomination Committee and Compensation Committee, we conduct questionnaire surveys of all corporate directors and Audit & Supervisory Board members, as well as individual interviews with some corporate directors and Audit & Supervisory Board members. We also conduct opinion exchanges and deliberations with a group comprised mostly of outside directors and Audit & Supervisory Board members. The results of this questionnaire, summaries of interviews and the content of the deliberations are then shared with the entire Board of Directors before deliberating and comprehensively evaluating the effectiveness of the Board of Directors. We appoint a third party to provide advice on setting assessment items and to conduct, aggregate and analyze the interviews in an effort to increase objectivity.

In terms of the evaluation results in fiscal year 2021, open and dynamic discussions were held at Board of Directors meetings and off-site meetings. We recognize that the Board of Directors, including the Nomination Committee and Compensation Committee, is functioning in an effective manner.

In light of the results of this evaluation, we will continue our efforts to have fuller discussions regarding medium- to long-term management strategies, promote diversity, strengthen group governance at a global level, and share appropriate information with the Nomination Committee, Compensation Committee and Board of Directors.

Engagement with Capital Markets

Our management actively engages in Investor Relations (IR) and Shareholder Relations (SR) activities to contribute to our sustainable growth and increase the medium to long-term value of our shares. The Chairman of the Board, CEO and corporate director in charge of finance serve as spokespersons as required at IR conferences in and outside Japan and strive to engage directly with investors. In addition to holding quarterly earnings release conferences, we actively share our business strategies and growth story at the Medium-term Management Plan briefings and on IR day. The IR Department, which was established under the direct control of the CEO, also provide appropriate explanations through individual interviews and regularly report opinions from investors to management so that feedback can be used in management.

As a part of our shareholder relations activities, company executives play a central role in active and constructive dialogue with our major institutional investors and proxy-advisory firms. In addition to explaining to the Shareholders’ Management Committees, company officers have engaged in dialogue on a wide range of topics, including the business environment, ESG and sustainability initiatives, and, in some instances, the response of business risk issues and environments, with the goal of mutual understanding.

To encourage active discussion and facilitate smooth and efficient voting at Shareholders’ Meetings, we send notification communications at an early stage and also post notices in both Japanese and English on our website to provide information to shareholders in a timely manner. In addition, we analyze the results of the exercise of voting rights and report to the Board of Directors to further enhance engagement.

Risk Management

Approach to Risk Management

Reflecting changes in society and the business environment, the risks facing businesses are growing increasingly complex and diverse. Tokyo Electron considers and appropriately addresses the risks that may face it in its businesses, as well as their impacts, to be essential to its sustainable growth.

Risk Management System and Initiatives

In order to promote more effective risk management, we carry out enterprise risk management1 through a body established within the General Affairs Department at our headquarters. This body works with the respective divisions and companies to evaluate and mitigate risks, thereby promoting diversified risk management activities. In fiscal year 2021 we introduced CIAs and started a risk management committee. We will continue these activities going forward. By continuing to strengthen and progress risk management activities throughout our Group, we will implement risk management that is more effective than ever before.

Auditing by the Internal Audit Department

The Global Audit Center serves as the internal audit department for the entire Group and implements audits based on the audit plan. Based on the results of these audits, it provides instructions for making improvements as needed, confirms the progress of these improvements, and provides any necessary support. The Group’s internal control over financial reporting in fiscal year 2021 was also evaluated as effective by the independent auditors.

Risk Management Initiatives

We conduct Group-wide reviews to identify the current state of risk management as well as any potential and actual risks surrounding the Company in the future. Based on the results of these reviews, we have identified the following 18 risks as having potential to cause significant issues to our financial condition, operating results and cash flows, and are working to address them.

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1. Market Fluctuations

- Rapid contraction of the semiconductor market could lead to overproduction or an oversupply of products.
- A rapid economic downturn could lead to a decrease in consumer purchasing power resulting in a decrease in demand.

2. Geopolitics

- Natural disasters: Risk of a natural disaster affecting the Group’s operations or operations in general.
- Changes in government policies: Risk of changes in government policies, regulations or other laws affecting the Group.

3. Research and Development

- Delays in the launch of new products or the discontinuation of existing products.

4. Production and Supply

- Material shortages: Risk of material shortages due to natural disasters or other reasons.

5. Safety

- Safety-related problems with our products could lead to damages suffered by customers, safety issues or a decline in our reputation.

6. Quality

- The assurance of product quality before launch can lead to liability for damages, costs for rework and a decline in our reputation.

7. Laws and Regulations

- Changes in laws and regulations that could materially impact our operations or financial performance.

8. Intellectual Property

- Risk of losing intellectual property rights or being unable to enforce intellectual property rights.

9. Information Security

- Risk of information leakage or data loss due to cyber-attacks or other malicious activities.

10. Human Resources

- Risk of losing or attracting key personnel, which could impact our ability to achieve business goals.

11. Environmental Issues

- Risk of non-compliance with environmental regulations, which could lead to fines or other penalties.

12. The Novel Coronavirus (COVID-19)

- Spread of the novel coronavirus (COVID-19) could affect the Company’s business activities and lead to the deterioration of global economic conditions.

13. Other Risks

- Risks related to natural disasters, pandemics, or other unforeseen events.

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1. Market Fluctuations: Refer to p. 28
2. Geopolitics: Refer to p. 50

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Management Foundation

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Information Security

As the data society develops and the importance of information security increases, we take active measures to use data including digital transformation and achieve information security effectively.

Main activities

Creating information security systems
We established a system centered around the Vice President and General Manager, Information Security, and are implementing integrated security measures on a global scale.

Information security management
We identify risks by conducting periodic risk assessments and internal audits and implement technological, human, organizational and physical security measures.

Responses to security threats
To respond to cyberattacks and information leaks, which are major security threats in modern society, we actively introduce advanced technologies and have specialized organizations create systems to establish mechanisms for reliable monitoring.

Establishment of global rules
We established global standardized information security rules and regularly conduct checks on compliance status and provided education for all relevant parties.

Supply chain security
We respond to customer requests and monitor the status of security at suppliers so that we can securely use confidential information and customer information in our business activities without compromising utility.

Increasing resilience
To prepare for the occurrence of security incidents, we established a specialized incident response organization and have established systems so that we can share incident information at an early stage and promptly respond and recover.

Overview of Information Security

Mechanisms that support information security activities

Day-to-day activities implemented globally

Systems established in preparation for emergencies

Compliance

Approach to Compliance
To practice Tokyo Electron’s 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’s 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 global compliance program, we have appointed a Chief Compliance Officer (CCO) and established a dedicated Compliance Department at our headquarters. Additionally, people responsible for compliance (Regional Compliance Controllers) have been appointed at key overseas sites, creating a system for direct reporting to the Chief Compliance Officer and Compliance Department. The primary role of the Compliance Department is to formulate and review our practical compliance programs, establish and implement business ethics, plan and implement education and training, and establish and operate internal reporting systems. It also cooperates with the Risk Management Business Support Group established within our General Affairs Department, regularly confirms the observance of laws and regulations in each country as well as internal company rules at each Group company, and assesses compliance risks. Furthermore, the Internal Audit Department conducts operational audits based on annual plans, which leads to the improvement of findings as appropriate.

Compliance Initiatives

Business Ethics
In addition to establishing the Code of Ethics as the standard of conduct by which all executives and employees should abide, we have also established an Ethics Committee to promote and raise awareness of compliance and business ethics more effectively within the company. We have also set up the Disciplinary Committee as a subordinate organization of the Ethics Committee for the purpose of ensuring that reasonable and appropriate disciplinary action is taken and proper procedures are followed. To ensure awareness of the Code of Ethics, we have translated it into five languages, including Japanese, and have distributed it in the form of a booklet to all executives and employees. In fiscal year 2021, the Code of Ethics was revised. In addition to reflecting standards required as a global company, we added a number of new provisions on such important issues as personal data protection, information security, and money laundering. In addition, in pursuit of clarity and usability, we have made changes to the booklet design and adopted a bullet point format. We are also striving to raise awareness of compliance and corporate ethics by regularly obtaining confirmation from all executives and employees that they understand and comply with the revised content.
Initiatives for Anti-Bribery and Corruption and for Competition Laws

In fiscal year 2021, we established the company-wide Basic Policy on the Prevention of Bribery and Corruption, and through regular education, we are working to promote understanding and awareness. Based on this basic policy, we have prepared the Guidelines for Gifts, Hospitality and Entertainment, which stipulate specific, practical procedures and standards on monetary amounts, and we have established a thorough process requiring prior approval for cases outside these standards. Using questionnaires that we have prepared, we also regularly check the status of our suppliers’ efforts to prevent corruption and provide them with feedback on the results and areas for improvement as required.

We have also established the company-wide Basic Policy on Competition Law Compliance, and have prepared, disseminated and enforced guidelines that summarize different types of violations in an easy-to-understand format, based on applicable laws and regulations in the countries and regions in which we operate.

Compliance Training

We conduct online and face-to-face training adapted to different levels for all employees. We will systematically expand our comprehensive training program and multilingual support, and reinforce efforts to foster compliance awareness and practice in the company.

Internal Reporting System

Preventing problems from occurring and resolving them before they become significant requires a system that allows employees to raise questions and concerns about business ethics and compliance without reservation or hesitation and to discuss them fully. For this reason, we have established an internal reporting system that ensures complete confidentiality, anonymity and the prohibition of retribution so that employees can safely and reassuringly provide information and seek redress outside the chain of command about behavior that is, or may be, in violation of laws, regulations or business ethics.

Specifically, we have established and are operating the Tokyo Electron Group Ethics & Compliance Hotline—a global common internal point of contact that uses a third-party system that is also accessible to our suppliers—as well as an external point of contact that allows direct consultation with an outside law firm. The internal point of contact can be accessed via phone or a dedicated website 24 hours a day, 365 days a year, and accommodates all languages used by employees.

Reports and consultations received via these points of contact are handled with sincerity, and investigations are undertaken in accordance with internal regulations. If a compliance violation is found, disciplinary action is taken in accordance with the Rules of Employment, and preventive measures and corrective measures, such as improvements to the workplace environment, are implemented as necessary.

In fiscal year 2021, a total of 82 cases were received via the internal reporting system, of which 6 were recognized as breaches of internal procedures. As a result, we have conducted regular compliance violations. The reports and requests for advice primarily related to harassment, but some concerned the company.

Compliance Department

Compliance Department is responsible for the internal reporting system, providing feedback on the results and areas for improvement as required.

We have prepared the Guidelines for Gifts, Hospitality and Entertainment, which stipulate specific, practical procedures and standards on monetary amounts, and we have established a thorough process requiring prior approval for cases outside these standards. Using questionnaires that we have prepared, we also regularly check the status of our suppliers’ efforts to prevent corruption and provide them with feedback on the results and areas for improvement as required.

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Human Resources

Human Resource Management

For Tokyo Electron, corporate growth is about people. Employees are a foundation for creating value. Our aim is for both the company and employees to grow together by engaging each employee at work and linking this to increased productivity for the company as a whole. Specifically, we are taking initiatives focused on (1) improving employee development and engagement, such as through promoting support for career development, encouraging them to stretch themselves and providing opportunities for skill and leadership development, (2) improving productivity through developing the workplace environment, such as by using IT for better operational efficiency and promoting smart work, and (3) attracting outstanding talent such as through employer branding, strengthening partnerships with universities and labs and promoting internships, including international ones. To expand these initiatives effectively, human resources function has deployed a team supporting business on a global level.

Employee Engagement

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 year 2016 to assess the current state of employee engagement and identify issues. Based on the results of the surveys, our management takes the lead in making improvements to foster a better workplace environment and culture. These initiatives resulted in an increase in the employee engagement score of 12 points from fiscal year 2016 to fiscal year 2021 and a turnover rate of 2.5%. We plan to continue these initiatives since we believe that improving employee engagement leads to providing increased value to our stakeholders.

Diversity and Inclusion

Diversity and Inclusion

At Tokyo Electron, diversity and inclusion are management pillars that lead to the continuous generation of innovation and increased corporate value. We are actively pursuing them with the strong commitment of our management. Although the areas of emphasis for diversity and inclusion vary by country, we have taken on gender and nationality as major themes and put the following goals and initiatives in place based on the characteristics of each region.

- In terms of succession planning, we conduct a diversity-conscious talent pipeline (plan for developing human resources) and strive to increase the ratio of women in management positions
- Taking into consideration that many of our employees are engineers, we actively invest in the use of recruiters and branding to hire women at a level that is equal to or greater than the ratio of women in each region (or the ratio of women majoring in science and engineering in the case of engineers)
- We 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 resources systems
- We organize events such as talks on diversity and inclusion from internal and external experts and leaders, generate 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
TEL Values

Systems and initiatives for TEL Values

A total of 14,479 employees are working at the 76 Tokyo Electron sites located in 18 countries and regions of the world, and we believe that each of them maintaining a high level of engagement and demonstrating their full potential will lead directly to our company’s growth. By sharing with our employees the direction toward which management is aiming and providing platforms for direct dialogue through the employee meetings and discussions held every year at each site, we are striving to build mutual trust between the organization and individuals. Furthermore, to realize our Corporate Philosophy, we established TEL Values, which delineate Tokyo Electron’s values, the mindset that each employee must possess, and the codes of conduct to be passed on to the future. The TEL Values—pride, challenge, ownership, teamwork, and awareness—are being put into practice by our employees all over the world.

Employee Growth

Global Human Resources System

The global human resources system introduced in fiscal year 2018 clarifies each employee’s roles and responsibilities to support talent management effectively. In coordination with development programs, Tokyo Electron supports the career development and growth of our employees by presenting the skills required for a variety of jobs in the company, the knowledge they should/can acquire and a description of expected duties at higher levels. We are also working to build workplaces where diverse individuals can flourish by conducting talent assessments across all countries and regions, realizing fair total rewards for employees and utilizing a performance management system and a global common human resource system.

Human Resource Concept at TEL UNIVERSITY

We have established TEL UNIVERSITY as an in-house educational establishment, helping employees to independently build their careers and realize their personal goals for their growth and development. Our aim is to stand shoulder to shoulder with each employee, supporting their self-growth and fruitful career development throughout their working life, and create a foundation that enables the organization and individuals to trust each other and grow. TEL UNIVERSITY plays an important part in helping employees realize our vision of being ‘a truly global company generating high added value and profits in the semiconductor and flat panel display industries through innovative technologies and groundbreaking proactive solutions that integrate diverse technologies.’ Through the following four initiatives, we are focusing on employee growth that leads to corporate growth.

 Provision of Personalized Learning Opportunities

Since each employee’s growth is different, we are putting effort into the practice of on-demand education* as a mechanism that allows individuals to learn as they want, when they want, and according to their own needs. In addition to group training, by proactively utilizing e-learning programs, we are providing opportunities for employees to learn from any location.

 Work-life Balance

Work Styles

Tokyo Electron recommends work styles that incorporate work-life balance and continuously develops work environments to enable this. We are promoting efficient ways of working suited to our employees’ lifestyles and social situations so that our employees can make the most of their work hours by utilizing a teleworking system in addition to a flextime system.

Leave System

Based on the belief that taking appropriate leave and properly managing work hours also contributes to better employee productivity, we strive to create long work hours and aim to enhance the leave system and promote taking leave.

 Since fiscal year 2019, we have set an annual target of 70% annual paid leave use and have promoted employee awareness for planned use of leave. We are also promoting regular monitoring of leave use status and urgent management to improve leave use rates, ensuring that five days of compulsory annual leave are taken as required by law since April 2019. In fiscal year 2021, the leave use rates were 62.5% in Japan and 73.5% overseas, affected by COVID-19. We will continue to encourage our employees to take annual paid leave.

Support for Career Development

We are expanding programs designed for employees to quickly acquire basic skills according to their different levels and goals through our global human resources system. Effort is being put into providing information and tools so that employees can gain a more concrete image of their own learning, experience and career development.

Leader Programs

In nurturing the next generation of leaders to support our future, we are globally expanding our succession programs to identify and systematically nurture staff to take on the role of realizing medium- to long-term improvement of corporate value. Selected next-generation management candidates are provided growth opportunities with an eye to the future through participation in events such as external training, building networks outside the company, and cultivating a broader perspective.

Provision of Global Learning Opportunities

For employees to acquire skills related to their duties and to gain a broader insight, we encourage them to actively participate in both internal and external seminars. We are also moving to standardize our core programs on a global basis so that employees are able to learn using our consistent group content and guidelines regardless of whether they are in Japan or overseas.
Our goal is to provide refreshment for employees and thereby boost their motivation to work. The system grants special (paid) leave from two weeks to one month per five years of service to employees who have worked for more than 10 years. In fiscal year 2021, 688 employees in Japan and 547 employees overseas took refreshment leave.

In addition, to the system made available by existing laws, we are independently building a substantial framework that allows employees to adopt a flexible approach to work that accords with diverse life events such as raising children or caring for family members. With regard to the situation in Japan, we have acknowledged the maximum extension of the childcare leave period to the day a child reaches three years of age, as well as expanding our provision to include employees rearing children as far as graduation from elementary school. In addition to nationally mandated leave to care for a sick or injured child, we enhance our support system by establishing our own childcare leave, nursing care leave, etc.

Respect for Human Rights

Approach to Human Rights

Conscious of our corporate social responsibility, Tokyo Electron recognizes 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 his or her full potential.

Human Rights Initiatives

In fiscal year 2018, we formulated our Human Rights Policy, summarizing our approach to human rights. We have specified the human rights we believe are particularly important in business activities as Freedom, Equality & Non-Discrimination, Freely Chosen Employment, Product Safety & Workplace Health and Safety, Freedom of Association, and Appropriate Working Hours & Breaks/Holidays/Vacations. In preparing the Human Rights Policy, we referred to the United Nations’ Guiding Principles on Business and Human Rights and the International Bill of Human Rights and the ILO Declaration on Fundamental Principles and Rights at Work referred to therein, the Ten Principles of the United Nations Global Compact, and the RBA Code of Conduct.

We ensure that our executives and employees, as well as suppliers, are fully aware of this content. Specifically, we publish the Human Rights Policy on our website to make it available to everyone inside and outside the Company, and we also implement online human rights training targeting all of our executives and employees.

In fiscal year 2021, as in the previous fiscal year, we conducted human rights due diligence, as well as risk surveys, and identified and assessed impacts. As part of the surveys, we utilized a self-assessment questionnaire (SAQ) for internal use, based on the RBA Code of Conduct, and also reviewed the results of a CSR assessment for suppliers of materials, staffing and logistics to assess the current situation throughout the value chain. We are using the results of these surveys to consider corrective actions and reduce human rights risks.

Supplier Human Rights Risk Survey Results

The results of human rights risk surveys conducted at suppliers showed that 35% of those with 500 or more employees had potential/actual risks. Among these risks, the major risks are health and safety issues related to human rights, followed by labor issues. Based on these results, we continued to request those suppliers to comply with domestic laws and regulations and social norms related to health and safety. We will work to reduce human rights risks by promoting corrective actions together with our suppliers.

We recognize the importance of having highly effective grievance mechanisms related to human rights and are working to establish and operate those mechanisms. In fiscal year 2021, we further strengthened our internal and external reporting systems in Japan and overseas for employees and suppliers.

Health and Productivity Management

Having every employee find fulfillment in both work and life and achieve their maximum performance is also important for the future advancement of Tokyo Electron. To create healthy and comfortable workplaces for employees, we are working to develop our systems further. Besides conducting various medical checkups in accordance with the law, we offer face-to-face consultations by designated occupational health physicians for employees who work long hours. We also offer counseling opportunities supported by external industrial counselors for those who request them. Furthermore, we are working on strengthening health-related support, organizing regular line-care seminars aimed at managing, and, where necessary, holding liaison meetings with the health officers and health professionals at each Group company in Japan. Based on the collaborative health concept, we provide health management for employees actively and efficiently and we actively promote data health initiatives, providing employees health guidance and enhancing health promotion according to their individual circumstances by utilizing examination data from medical checkups. As a result, the health literacy of employees in fiscal year 2021 rose, demonstrated for instance, by an increase in the percentage of employees receiving specific health guidance.

Health and Safety
Environmental Issues Management System

Environmental issues such as climate change are growing ever more crucial. To promote activities in the medium to long term that meet the environmental/ESG needs of its customers and other stakeholders, the Manufacturing Company Presidents’ Council, which includes the corporate director in charge of EHS, monitors and supervises progress related to environmental management. A headquarters has been established, headed by the corporate director in charge of EHS, and promotes environmental activities across the entire Group. The Environment Council, made up of members appointed by the executives of the Group companies, sets targets related to environmental issues, monitors progress, and also works to achieve its goals. Furthermore, to continuously promote our environmental activities, we have operated an environmental management system based on ISO 14001 since fiscal year 1998, primarily at our manufacturing subsidiaries. In March 2017, we acquired multi-site ISO 14001 certification for our plants and offices in Japan that had previously acquired certification separately. Coinciding with this multi-site certification, we have developed a standardized group format for environmental impact assessments, the identification of useful environmental aspects, environmental management programs, and internal audit checklists. During fiscal year 2021, we established approximately 100 environmental goals for different levels across the entire Group and carried out these improvement activities. Any issues identified through these activities are reviewed by the Environment Council, reported to the Manufacturing Company Presidents’ Council and used for promoting environmental activities across the entire Group. Under such an environmental management system, fiscal year 2021 was again free from environmental incidents, accidents, violations, and associated legal proceedings.

Environmental Risk and Opportunities

The various issues related to the environmental impact on our daily lives and the business activities of companies. Physical risks, such as rising average global temperatures, strong winds, disasters, and water shortages caused by climate change and abnormal weather, heighten the risks in business, such as damage to assets, increased operating costs, and impacts on the supply chain. In terms of legal risks, we recognize that stronger environmental laws and regulations, more stringent regulations on greenhouse gas emissions, the introduction of carbon taxes, and so on will lead to higher costs for associated measures. At the same time, promoting environmental initiatives leads to more opportunities to sell outstanding, environmentally friendly products, reduce operating costs, and further improve corporate value. As a participant in the semiconductor and flat panel display (FPP) industry, by leveraging Tokyo Electron’s advanced technological prowess to create added value, we can contribute to the creation of semiconductor and FPP products with low power consumption and the building of an energy-saving society that makes the most of information technology.

Based on the requirements of ISO 14001, we identified and analyzed internal and external issues in relation to the environment, namely, our relationship with the climate, air quality, and water quality. We also clarified the environmental needs and expectations of customers, suppliers, governments, and employees and identified the compliance obligations of our group. From this information, we defined the following as its risks and opportunities to address: (1) environmental management by reducing the environmental impact of its business activities, (2) compliance with applicable laws, and (3) enhancing product competitiveness with the environmental contribution of products.
TCFD
Initiatives Related to Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

We are pursuing ongoing disclosures and initiatives based on the TCFD framework and relating to risks and opportunities that climate change presents to our business.

Status of Initiatives Related to Recommendations of the TCFD

G. Governance
Each of our corporate directors for EHS and CSR is working under the supervision of the CEO to monitor progress of goals related to our response to climate change.

With the establishment of the EHS Promotion Department and CSR Operations Department at headquarters, these activities are being driven by the entire Group. At the Environmental Council, comprised of members appointed by executives of the Group companies, company-wide goals are set, progress is monitored and the achievement of these goals is promoted.

S. Strategy
Utilizing the framework of the TCFD recommendations, we identified the risks and opportunities of climate change that will impact business over the medium to long term. We have evaluated the quantitative impact on business from some of those risks and opportunities, and we aim to continue quantifying others going forward as we investigate relevant measures.

R. Risk Management
Through the Manufacturing Company Presidents' Council, we approve company-wide risk management initiatives, from short term to long term, that related divisions and councils recommend, and then apply those initiatives to the facilities and divisions of the Group companies.

For Scope 1 and 2 CO₂ emissions, we are adopting renewable energy from a global perspective, including the implementation of measures at key manufacturing sites in Japan with high emissions.

For Scope 3 emissions, we recognize the importance of providing products that generate fewer CO₂ emissions because about 88% of the emissions in our entire value chain are generated during use of products after sale, so we are focusing on the development of a range of environmental technologies.

We also formulate business continuity plans in anticipation of natural disasters caused by abnormal weather and other factors, and take measures with our suppliers that ensure business operations can be maintained.

M. Metrics and Targets
To further reinforce our initiatives toward improving environmental performance of products and conserving the environment at our plants and offices, we revised our medium-term environmental goals in December 2020.

While supporting the advancement of information and communications technology through the provision of our semiconductor and FPD production equipment, we are also committed to achieving new environmental goals in keeping with our Corporate Philosophy: “We strive to contribute to the development of a dream-inspiring society through our leading-edge technologies and reliable service and support.”

Examples of Climate Change (Risks and Opportunities) Impacting Business over the Medium to Long Term:

- Increased energy costs due to waste on fuel and energy
- Assuming our greenhouse gas (GHG) emissions and use of renewable energy remain at fiscal year 2021 levels, if a carbon tax were applied, we estimate our costs would increase by 1.1 billion yen/year by fiscal year 2024 (assuming a tax of 6,000 yen per ton CO₂), and 2.6 billion yen/year by fiscal year 2041 (14,000 yen per ton CO₂)
- Decreased net sales if we are unable to meet customers’ requirements and demands for environmental initiatives
- Reduced reputation among investors, NGOs and local communities if a response to climate change and other environmental issues is delayed

CO₂ Emissions Across the Value Chain

We will work to grasp the environmental impact throughout the value chain and develop business activities that are conscious of risks. Based on our environmental slogan “Technology for Eco Life,” we aim to resolve environmental problems through leading technology and reliable services.
Products Contribute to a Sustainable Society
Of the CO₂ emissions from our value chain, emissions during product use account for about 88%. For this reason, we have made it a key corporate objective to promote environmentally friendly product design and lower the energy consumption of our products. In fiscal year 2021, we moved ahead with setting out a roadmap for key models to reach our medium-term environmental goal to reduce per-wafer CO₂ emissions by 30% by fiscal year 2031 (compared with fiscal year 2019) for the key models of each business unit, and have established guidelines for calculating CO₂ emissions that include the amounts of process gases and chemical substances to use, as well as the area, volume and mass occupied by equipment, in addition to our existing ones for energy and water. Based on these guidelines, we have begun estimating CO₂ emissions only for equipment using our base year (fiscal year 2019), and have also started studying environmental technology strategies. As we work to further raise environmental awareness, we will continue to incorporate environmental technologies as an important added value in our technological strategies through various activities.

**Example initiative**
In our Cellicia™ series of test systems, we have improved the cooling circuits in the cooling chiller, increasing efficiency and boosting cooling capacity by 30%. This has enabled us to make the cooling chiller smaller, reducing our ‘equipment footprint’. In addition, we have brought in new functions to automatically switch off heaters and chillers inside our Precico™ series of water provers when idle.

Initiatives for Product Environmental Laws and Regulations
In order to comply with each country’s environmental laws and regulations pertaining to products, we proactively collect information and take appropriate action as required. An example of our efforts for EU REACH1 is that we proactively investigate and disclose information on the presence of any chemical substances in articles. We introduced the chemHESPIRM format in fiscal year 2023 and collected information on chemical substances for concentrations in the parts per billion (pptv). As an effort toward GHG2 requirements, we provide safety data sheets (SDS) when selling chemical products. We also promote the local collection of chemical products and effectively address laws and regulations. In explaining and addressing the frequently revised environmental laws and regulations, we continue to offer ‘web-based training for Product Environment Compliance’ to all employees, and we provide suppliers with information on the relevant environmental laws and regulations. We will continue to monitor each country’s environmental laws and regulations rapidly and strive to take appropriate action.

Plant and Office Initiatives

**Renewable Energy Initiatives**

We have set as a medium-term environmental goal the use of 100% renewable energy sources at our plants and offices by fiscal year 2031. To reach this goal, we are planning to introduce renewable energy at our sites in Japan, the United States and China, starting from fiscal year 2022. This will bring us the use of renewable energy company-wide to over 50%, while dropping our CO₂ emissions by 40%.

As an initiative toward in-house generation of renewable energy, at Tokyo Electron Miyagi (Taiwa Office) and Tokyo Electron Technology Solutions (Fujii Office), renewable energy generated from solar panels is used to power the plants, and monitors displaying their energy profile have been set up at the entrances to the plants. At Tokyo Electron Kyushu (Koshi Office), generated energy is sold, helping to prevent global warming. In fiscal year 2021, we generated a total of 4,068 MWh of renewable energy in Japan. In addition, Tokyo Electron U.S. Holdings has continued to purchase green power from external sources, amounting to 4,980 MWh in fiscal year 2021.

**Initiatives to Prevent Global Warming and Save Energy**

As our medium-term environmental goal, we want to reduce total CO₂ emissions by 70% by fiscal year 2031 (compared with fiscal year 2019) at our plants and offices, and have set the goal of reducing energy consumption by at least 7% year-over-year at each of our plants and offices. To achieve this goal, we have brought in a number of initiatives, including our energy-saving clean room operation, setting office air conditioning at appropriate temperatures, introducing devices that offer superior energy-saving performance, and bringing in renewable energy. As a result of these activities, we managed to reduce by 10% year-over-year the amount of energy used at our plants and offices on a per sales net sales basis in fiscal year 2021. In addition, the increase in the amount of energy used to develop and evaluate products and increase production meant that our power consumption was 235 GWh (12% increase YoY), and the CO₂ emitted by our energy sources was 169 kilotons (9% increase YoY). In addition, in fiscal year 2019, we revisited the per-unit basis for plants and offices in Japan to more appropriate levels based on the correlation between business operations and energy, sharing these and putting them into practice. Specifically, the per-unit basis is calculated by compound weighting using data on the number of development and evaluation machines, production volume, floor space, and man-hours in each region. As a result, the goal has been achieved at 1 of the 11 total plants and offices in Japan and overseas.

**Example initiative**

We are bringing in a system at our manufacturing sites in Japan to make it clear how much energy is saved at our plants and offices. Previously, we used to graph changes by extracting data by hand, but now, through integrated management on the cloud, we can check changes at any time, as well as check the deployment and effects of BKM3 at each plant and study or implement measures. This system is scheduled to be fully in place by fiscal year 2022.

**Example initiative**

The new manufacturing wing that started operation at the Tokyo Electron Technology Solutions (Fujii Office) in August 2020 uses energy-saving air-conditioning equipment, allowing it to save an expected 30% of energy or more in terms of floor area.

**Example initiative**

At Tokyo Electron Kyushu (Koshi Office), heat source chillers that used to be controlled, managed and run independently have been switched to integrated operation. This is expected to save about 470 MWh and 170 t-CO₂ annually going forward.

**Initiatives to Reduce Water Consumption**

With the growing importance of water resource preservation in global environmental initiatives, we have established a goal of keeping water consumption at the same level or below that of the baseline year (fiscal year 2012 for plants and offices in Japan and a fiscal year of their choosing for each overseas operation). Our ongoing efforts to achieve these initiatives include recycling pure water from our manufacturing operations, installing water-saving devices, watering lawns with rainwater, and implementing the intermittent operation of cafeteria faucets. During fiscal year 2021, as a consequence of new buildings coming online and an increase in water consumption associated with product development and evaluation, water consumption amounted to 1,397,000 m³, up 7% year-over-year. Moreover, in terms of our goal of maintaining water consumption at the baseline level (per-unit basis) at each plant and office, we achieved 10 of the 13 goals. Additionally, an estimated 135,000 m³ of wastewater was discharged in fiscal year 2021.

**Initiatives to Reduce Waste**

To curb the amount of waste generated and to recycle it wherever possible, we promote initiatives to reduce waste. In addition to participating in the electronic manifest system4 to ensure proper waste management, we are engaged in maintaining an appropriate amount of parts inventory and in reducing cushioning material. We are also achieving lower waste processing costs by promoting waste sorting activities and by modifying space used for storing waste to increase storage capacity and reduce the frequency of collection. In fiscal year 2021, we surveyed waste disposal operators in Japan using a unified on-site checklist, and we shared the results. As a result of these initiatives, in fiscal year 2021, we generated 183 tons of incinerated and landfill waste, and the recycling rate5 was 98.8%, achieving our single-year goal of maintaining a recycling rate of 97% or higher for the 15th consecutive year since fiscal year 2007. We have also maintained a high level of recycling of 95% at our overseas plants and offices.

**Example initiative**

At the Chaska Office of TEL Manufacturing and Engineering of America, wood recycling is encouraged, and in addition, packaging materials that would normally be sent to landfills are converted to heat or power generation materials. The recycling rate was 85% in fiscal year 2020 but climbed 14 points in fiscal year 2021 to reach 99%.

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1. BKM: bird-killing mark

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**Example initiative 1**

We are bringing in a system at our manufacturing sites in Japan to make it clear how much energy is saved at our plants and offices. Previously, we used to graph changes by extracting data by hand, but now, through integrated management on the cloud, we can check changes at any time, as well as check the deployment and effects of BKM at each plant and study or implement measures. This system is scheduled to be fully in place by fiscal year 2022.

**Example initiative 2**

The new manufacturing wing that started operation at the Tokyo Electron Technology Solutions (Fujii Office) in August 2020 uses energy-saving air-conditioning equipment, allowing it to save an expected 30% of energy or more in terms of floor area.

**Example initiative 3**

At Tokyo Electron Kyushu (Koshi Office), heat source chillers that used to be controlled, managed and run independently have been switched to integrated operation. This is expected to save about 470 MWh and 170 t-CO₂ annually going forward.
Supply Chain Management

Principles and System of Supply Chain Management

To make its entire supply chain sound and sustainable, Tokyo Electron has formulated a procurement policy based on the laws, regulations and social norms of each country, as well as the RBA Code of Conduct, and is promoting activities based on this policy by disseminating it throughout the Company and its suppliers. We also promote improvement activities from various perspectives while maintaining communication with diverse suppliers, including materials suppliers that handle parts and raw materials, suppliers providing services and logistics suppliers that handle physical distribution operations.

We strive to create value in the supply chain by working to build relationships of trust with our suppliers, who support our business as partners, and by working together to conduct operations in compliance with global standards. Under the leadership of the Representative Director, President & CEO, issues identified during various activities are shared with relevant divisions and considered for action on specific improvements.

Initiatives in the Supply Chain

CSR Operations

To keep track of our suppliers’ engagement in CSR activities, we have conducted a CSR assessment in areas such as labor, health and safety, the environment and ethics since fiscal year 2014. We analyze the results of the assessments, provide feedback and work together with our suppliers to remediate any issues. In fiscal year 2019, we completely revised the content of the survey based on audit standards stipulated by the RBA and have since conducted surveys on materials, staffing and logistics suppliers.

In fiscal year 2021, with the help and understanding of our suppliers, steps were taken to repay workers with respect to cases of an employment-related expense burden for forced labor and bonded labor, which had been identified in the previous fiscal year and which have been given particular emphasis in the RBA Code of Conduct. In addition, with respect to cases of false reporting, changes were made in business processes and audits were introduced.

Regarding the human rights issue of “freely chosen employment,” we have expressly stipulated our zero-tolerance policy for forced labor and bonded labor, and by communicating this to our major suppliers, we are promoting initiatives to ensure that all people in our supply chain can work of their own free will.

Responsible Procurement of Minerals (Conflict Minerals)

We regard taking action against conflict minerals (3TG) obtained through illegal exploitation, including sources with human rights violations or poor working conditions, as an important part of 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. We conduct surveys on conflict minerals using the CMI and referring to the RMI’s Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. In fiscal year 2021, we conducted our seventh annual survey on potential conflict minerals, and as a result, we were able to identify 236 RMAP-conformant smelters, providing us confidence that 3TG sourced from these smelters were conflict-free. In addition, none of the materials we procured were found to contain 3TG involved in conflict.

Procurement BCP

As part of our business continuity plans (BCPs), we collaborate with suppliers for disaster preparation. We maintain a database of suppliers’ production sites so that if a crisis arises, we can promptly identify impacted suppliers and quickly collaborate in recovery efforts. During fiscal year 2021, about 22,000 supplier sites were registered, and post-disaster impact surveys were conducted following.

In addition, we conduct BCP assessments7 on our suppliers, analyze their responses and provide them with feedback to promote further improvement. In the fiscal year 2021 assessment, improvements in the overall rating level were observed at 20% of suppliers, and improvements in the overall raw score were seen at 43%.

Logistics Initiatives

We have been promoting activities designed to reduce the environmental impact of our logistics. We have been implementing a modal shift8 from air to ocean transportation for the overseas shipping of our semiconductor and FPD production equipment, and at the same time, we have been working hard to reduce production lead times. We have also been endeavoring to reduce CO2 emissions and costs by adopting the shelved trolleys traditionally used in shipping FPD production equipment to semiconductor production equipment, thereby improving the load factor of trucks.

In fiscal year 2021, we set a new environmental goal for logistics to reduce the amount of wooden packaging materials used by 50% (packaging for semiconductor production equipment fiscal year 2024). We will continue to promote activities that contribute to the achievement of this goal.

Environmental Communication

Our environmental policy requires that we promote cooperative partnerships with our stakeholders and respond appropriately as a company to their expectations and wishes. In promoting initiatives for the environment, we maintain close communication with all our stakeholders.

We are introducing online environmental education programs to better promote environmental communication internally. Our online programs consist of an environmental program for new employees and mid-career recruits, plus an online program for existing employees. In fiscal year 2021, we carried out refresher programs for existing employees, which about 8,000 people in Japan attended.

E-COMPASS

We established E-COMPASS (Environmental Co-Creation by Material, Process and Subcomponent Solutions) as a new supply chain sustainability initiative. E-COMPASS aims to align our products and the entire operations in the supply chain and actively endeavor to preserve the global environment throughout the supply chain.

Biodiversity

In carrying out our business activities, we have a not insignificant impact on biodiversity, and yet without the benefits yielded from biodiversity, we could not sustain our activities. In recognition of this, we will develop a framework for promoting initiatives to conserve biodiversity. We set a single fiscal year goal of conducting at least two ecosystem tours or conservation activities at our plants and offices in Japan. Results in fiscal year 2021 show that a total of 18 events were held, attracting a total of 52 participants.

Green Procurement

We began implementing our Green Procurement Guidelines in January 2001 and have since promoted green procurement, prioritizing the purchase of environmentally friendly parts and products. Through these guidelines, we strive to gain the understanding and cooperation of our suppliers with respect to building environmental management systems, monitoring, reducing and disclosing information on the environmental impacts of business activities, and developing environmentally friendly products.

Management of Chemical Substances

We constantly monitor and manage the use and release of any chemical substances used in product development and manufacturing subject to the Japanese PRTR9 law. Whenever we introduce a new chemical substance or change the way an existing substance is used, we check for environmental, health, and safety risks beforehand and conduct appropriate processing after use by contracting expert vendors and using in-house processing facilities. In response to the Fluorocarbons Recovery and Destruction Law, we conduct simple checks, regular inspections and so on based on law in an effort to monitor the amounts of fluorocarbons filled and recovered. In fiscal year 2021, none of our plants or offices had fluorocarbon leakages requiring notification.

Economic Co-operation and Trade Relation (E-COMPASS) is a framework for tracking and disclosing quantitative data on chemical substances that may be hazardous to human health and the environment. It monitors the amounts used and discharged into the environment and the amount transformed or lost in the part of waste of the plants and offices.

www.tel.com/csr/environment/green-procurement/
Expanding TEL FOR GOOD Activities

Tokyo Electron’s social contribution activities aim to contribute to the resolution of social issues and the development of local communities through various activities while deepening relationships of trust with all stakeholders.

As a manufacturer of semiconductor and flat panel display production equipment, we have selected four focus areas. We place great importance on innovation and technology, focus on the education of human resources to support them and aim to provide the global environment while, at the same time, ensuring communication and involvement with the communities where we are operating worldwide.

In addition to taking initiatives through business, we strive to help achieve the SDGs through the activities of TEL FOR GOOD.

4 Focus Areas and Relevant SDGs

**Innovation and Technology**
- **Number of TEL FOR GOOD Activities (FY2021)**
  - By focus area: 4
  - By region:
    - China: 3
    - Europe: 14
    - Japan: 15
    - Korea: 9
    - United States: 10
    - Taiwan: 1

**Education**
- **Support to Help End the Global Pandemic**
  - In support of activities to prevent the spread of COVID-19 and the ideas of ending the pandemic and returning people’s lives to normality as soon as possible, we donated 100 million yen to Kumamoto Prefecture to help the flood victims and in the hopes of quickly restoring the affected areas.

**Environment**
- **Assistance after the July 2020 Heavy Rain**
  - After heavy rain caused flooding, especially in the Kyushu region in July 2020, we donated 100 million yen to Kumamoto Prefecture to help the flood victims and in the hopes of quickly restoring the affected areas.

**Community Involvement**
- **Initiatives around the World**
  - **Korea**
    - **Semiconductor Scholarship**
    - In support of the semiconductor scholarship program sponsored by the Korea Semiconductor Industry Association (KSID), Tokyo Electron Korea, together with semiconductor manufacturers and device manufacturers, has since 2008 been providing scholarships to students who have demonstrated excellence in the semiconductor sector. Through fiscal year 2021, one science and engineering student mapping in semiconductors was selected and awarded a semiconductor scholarship of approximately 1 million yen. Starting in fiscal year 2022, the number of scholarship recipients was increased to two. The scholarships are awarded during the commemorative ceremony for Korean Semiconductor Day, which takes place on October 29 every year.

  - **Japan**
    - **Afforestation Activity “Tokyo Electron Forest”**
    - To preserve the forest environment, Tokyo Electron Miyagi has been continuously planting trees since fiscal year 2018. In fiscal year 2021, to prevent the spread of COVID-19, a small, elite corps of eight employees carried out various afforestation activities, including thinning and tree planting, as well as trial and bridge maintenance. To ensure their effective utilization, the trees were used as teaching materials in elementary and junior high schools in Taiwa-cho, where they were made into tops and flutes.

  - **Europe**
    - **Virtual Running Event**
    - Because of the COVID-19 pandemic, Tokyo Electron Europe organized a virtual running event near the homes of participating employees. Each team formed within the company set up a target distance, which was run by individual employees wearing T-shirts printed with the Tokyo Electron logo. Tokyo Electron Europe contributed funds in an amount matching the total distance run by the participants. When added up, the donated funds amounted to approximately 800 euros and were donated to Sonnenstrahl e.V., a charitable organization located in Dresden serving cancer-afflicted children and their family members.

**Technology**
- **Science Intercollaborate**
  - Science Intercollaborate is an event for university and technical college students to present findings of their own research. We have been a featured sponsor since the first competition. By providing an opportunity to present their research, the event aims to help students who have demonstrated excellence in their field to undertake research and to foster original and rich creative scientists and engineers. The 28th Science Intercollaborate was held online from January 25 to February 26, 2021, attended by 60 students from 40 finalist groups, bringing the total number of students presenting their research to more than 1,900 since the event’s inception.

**Special Topics**
- **Japan**
  - **Science Intercollaborate**
  - Science Intercollaborate is an event for university and technical college students to present findings of their own research. We have been a featured sponsor since the first competition. By providing an opportunity to present their research, the event aims to help students who have demonstrated excellence in their field to undertake research and to foster original and rich creative scientists and engineers. The 28th Science Intercollaborate was held online from January 25 to February 26, 2021, attended by 60 students from 40 finalist groups, bringing the total number of students presenting their research to more than 1,900 since the event’s inception.

**Support to Prevent the Spread of COVID-19**
- **Science Intercollaborate**
  - Science Intercollaborate is an event for university and technical college students to present findings of their own research. We have been a featured sponsor since the first competition. By providing an opportunity to present their research, the event aims to help students who have demonstrated excellence in their field to undertake research and to foster original and rich creative scientists and engineers. The 28th Science Intercollaborate was held online from January 25 to February 26, 2021, attended by 60 students from 40 finalist groups, bringing the total number of students presenting their research to more than 1,900 since the event’s inception.
## Social


### Composition of Employees

<table>
<thead>
<tr>
<th>Employees (Employment type)</th>
<th>Japan</th>
<th>Rest of Asia</th>
<th>North America</th>
<th>Europe and Middle East</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of employees</td>
<td>7,286</td>
<td>2,285</td>
<td>1,656</td>
<td>554</td>
<td>12,987</td>
</tr>
<tr>
<td>Regular employees</td>
<td>6,967</td>
<td>2,016</td>
<td>1,516</td>
<td>498</td>
<td>11,707</td>
</tr>
<tr>
<td>Men</td>
<td>6,079</td>
<td>1,688</td>
<td>1,188</td>
<td>356</td>
<td>9,809</td>
</tr>
<tr>
<td>Women</td>
<td>988</td>
<td>328</td>
<td>328</td>
<td>142</td>
<td>1,676</td>
</tr>
<tr>
<td>Non-regular employees</td>
<td>321</td>
<td>269</td>
<td>239</td>
<td>56</td>
<td>655</td>
</tr>
<tr>
<td>Men</td>
<td>209</td>
<td>149</td>
<td>149</td>
<td>23</td>
<td>411</td>
</tr>
<tr>
<td>Women</td>
<td>112</td>
<td>120</td>
<td>90</td>
<td>33</td>
<td>255</td>
</tr>
</tbody>
</table>

### Recruitment/Employment (Japan)

<table>
<thead>
<tr>
<th>New graduate recruit</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number hired</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>Percentage</td>
<td>1.98%</td>
<td>2.04%</td>
<td>2.01%</td>
<td>2.30%</td>
<td>2.04%</td>
</tr>
</tbody>
</table>

### Second career support system

<table>
<thead>
<tr>
<th>Number of users</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of those who took leave</td>
<td>179</td>
<td>179</td>
<td>179</td>
<td>179</td>
<td>179</td>
</tr>
<tr>
<td>Percentage of respondents who selected “Very Satisfied” or “Satisfied” in the customer satisfaction survey</td>
<td>67.6%</td>
<td>59.4%</td>
<td>84.4%</td>
<td>93.3%</td>
<td>96.7%</td>
</tr>
</tbody>
</table>
Performance Summary: Social

Products/Innovation

<table>
<thead>
<tr>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

- Number of active issued patents:
  - Japan: 16,023
  - North America: 4,822
  - Europe: 199
  - China: 1,557

- Active issued patents (Region/Country):
  - Japan: 16,023
  - North America: 4,822
  - Europe: 199
  - China: 1,557

- Significant fines and non-monetary sanctions for non-compliance with laws and regulations:
  - 99.9%

Patent application success rate:

<table>
<thead>
<tr>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>65.6%</td>
<td>71.5%</td>
<td>82.9%</td>
<td>85.1%</td>
<td>87.3%</td>
</tr>
</tbody>
</table>

Safety

- Percentage of employees who received training on basic safety:
  - 100%

- Percentage of employees who received training on advanced safety:
  - 100%

- Lost time incident rate (LTIR):
  - 0.46

Procurement

- Percentage of non-important supplies screened using social criteria:
  - 100%

- Rate of improvement after supply chain CSR assessment (including green procurement survey):
  - 16.0%

- Rate of improvement after supply chain ECP assessment:
  - 100%

- Number of workplace injuries per 100,000 work hours (TOI):
  - 0.28

Governance

- Total number of critical incidents notified to Board of Directors:
  - 1

- Total number of incidents subject to in-depth analysis in the context of anti-corruption control:
  - 12

- Total number of executives who received training on anti-corruption:
  - 12

- Total number of directors who provided instructions on the codes of procedures and policies relevant to anti-corruption:
  - 11

- Total number of directors who received training on anti-corruption:
  - 9 (100)

- Payment to politically affiliated organizations (yen):
  - 0

- Average number of hours spent on meetings:
  - 29 (100)

Compliance

- Calculation on ISO 14001:2015:
  - 110

- Significant fines and non-monetary sanctions for non-compliance with laws and regulations in the social and economic area:
  - 0

Social Contribution

- Spending on social contribution activities (mil. yen):
  - 242

- Donations and In-kind contributions:
  - 17

- Community investment (charitable expenses for long-term cause for community):
  - 43

- Commercial initiatives (charitable expenses with anticipated efforts in social influence):
  - 40

Performance Summary: Environment

Environment

The scope for calculating environmental data is the Tokyo Electron group (28 consolidated companies), and the calculating period is fiscal year 2021 (April 1, 2020 to March 31, 2021).

Japan: Tokyo Electron Ltd. and six consolidated subsidiaries (including Tokyo Electron Technology Solutions Ltd., Tokyo Electron Miyagi Ltd., and Tokyo Electron FE Ltd.).


Greenhouse Gas Consumption/Emmissions

<table>
<thead>
<tr>
<th>Scope</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2 by scope</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>1,183</td>
<td>1,183</td>
<td>1,183</td>
<td>1,183</td>
<td>1,183</td>
</tr>
<tr>
<td>Overseas</td>
<td>5,983</td>
<td>5,983</td>
<td>5,983</td>
<td>5,983</td>
<td>5,983</td>
</tr>
</tbody>
</table>

CO2 from energy consumption:

<table>
<thead>
<tr>
<th>Scope</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
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<td>5,983</td>
<td>5,983</td>
</tr>
</tbody>
</table>

Non-energy-derived greenhouse gas:

<table>
<thead>
<tr>
<th>Scope</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
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</tbody>
</table>

Resource Consumption

Water

<table>
<thead>
<tr>
<th>Scope</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
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<td>5,983</td>
</tr>
</tbody>
</table>

CO2 Emissions from Energy Consumption (Unit: kton CO2 eq.)

<table>
<thead>
<tr>
<th>Scope</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
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<td>5,983</td>
<td>5,983</td>
</tr>
</tbody>
</table>

These data show third-party assurance
### Energy Consumption/Generation

<table>
<thead>
<tr>
<th>Scope</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CO₂</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emissions (kt-CO₂)</td>
<td>97</td>
<td>122</td>
<td>146</td>
<td>186</td>
<td>152</td>
</tr>
<tr>
<td>Jpn</td>
<td>76</td>
<td>101</td>
<td>117</td>
<td>142</td>
<td>143</td>
</tr>
<tr>
<td>Overseas</td>
<td>21</td>
<td>21</td>
<td>29</td>
<td>44</td>
<td>0</td>
</tr>
<tr>
<td>Proportion of marine transportation (international)</td>
<td>31.9</td>
<td>31.9</td>
<td>31.9</td>
<td>31.9</td>
<td>31.9</td>
</tr>
</tbody>
</table>

### Environmental Impact of Logistics

<table>
<thead>
<tr>
<th>Scope</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CO₂</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emissions (kt-CO₂)</td>
<td>122</td>
<td>146</td>
<td>186</td>
<td>212</td>
<td>168</td>
</tr>
<tr>
<td>Jpn</td>
<td>101</td>
<td>117</td>
<td>142</td>
<td>143</td>
<td>143</td>
</tr>
<tr>
<td>Overseas</td>
<td>21</td>
<td>29</td>
<td>44</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Electricity Consumption

<table>
<thead>
<tr>
<th>Scope</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CO₂</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emissions (kt-CO₂)</td>
<td>117</td>
<td>142</td>
<td>142</td>
<td>142</td>
<td>142</td>
</tr>
</tbody>
</table>

### Waste

<table>
<thead>
<tr>
<th>Scope</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Waste</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total waste (t)</td>
<td>112</td>
<td>133</td>
<td>116</td>
<td>142</td>
<td>118</td>
</tr>
<tr>
<td>Recycled waste (t)</td>
<td>99.0</td>
<td>99.0</td>
<td>99.0</td>
<td>99.0</td>
<td>99.0</td>
</tr>
<tr>
<td>Incinerated waste (t)</td>
<td>2.0</td>
<td>4.0</td>
<td>1.0</td>
<td>13.0</td>
<td>13.0</td>
</tr>
</tbody>
</table>

### Chemical Substances Emissions/Consumption (Japan)

<table>
<thead>
<tr>
<th>Scope</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRTR Class I designated chemical substances</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume handled (t)</td>
<td>64</td>
<td>105</td>
<td>101</td>
<td>121</td>
<td>144</td>
</tr>
<tr>
<td>Ferric chloride</td>
<td>33</td>
<td>82</td>
<td>84</td>
<td>86</td>
<td>106</td>
</tr>
<tr>
<td>Hydrofluoric acid</td>
<td>25</td>
<td>11</td>
<td>11</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>Methylphosphine</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>Water-soluble salts</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Amount transported (t)</td>
<td>99</td>
<td>91</td>
<td>96</td>
<td>111</td>
<td>131</td>
</tr>
<tr>
<td>Amount recycled (t)</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>NOx</td>
<td>7.9</td>
<td>11.5</td>
<td>9.6</td>
<td>11.9</td>
<td>13.0</td>
</tr>
<tr>
<td>SOx</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
</tr>
</tbody>
</table>

### Other

<table>
<thead>
<tr>
<th>Scope</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOx (ppm)</strong></td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td><strong>Biodiversity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of ecosystem tours</td>
<td>2</td>
<td>18</td>
<td>22</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>Number of ecosystem tour participants</td>
<td>2</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Number of breaches of environmental laws and regulations</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total product shipment (t)</td>
<td>1,905</td>
<td>3,270</td>
<td>3,270</td>
<td>3,270</td>
<td>3,270</td>
</tr>
</tbody>
</table>

### Recycling Rate/Generation of Incinerated and Landfill Waste in Japan

- Recycled waste (%): (Recycled amount/Amount of waste generated) × 100

<table>
<thead>
<tr>
<th>Scope</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recycling rate (%)</strong></td>
<td>99.0</td>
<td>99.0</td>
<td>99.2</td>
<td>99.3</td>
<td>99.1</td>
</tr>
<tr>
<td><strong>Recycled waste (t)</strong></td>
<td>133</td>
<td>116</td>
<td>142</td>
<td>318</td>
<td>318</td>
</tr>
</tbody>
</table>

### Performance Summary: Environment

- ISO 14001
  - Number of certified offices: 8, 9, 9, 9, 11
  - Japan: 5, 5, 5, 5, 5
  - Overseas: 3, 4, 4, 4, 6

- Biodiversity
  - Number of ecosystem tours: 2, 15, 15, 15, 15
  - Number of ecosystem tour participants: 2, 22, 22, 22, 22

- Environmental laws and regulations
  - Number of breaches of environmental laws and regulations: 0, 0, 0, 0, 0

- Total product shipment (t): 20,445, 34,110, 32,715, 31,184, 28,862

- Recycling Rate/Generation of Incinerated and Landfill Waste in Japan
  - Recycling rate (%): (Recycled amount/Amount of waste generated) × 100
Independent Practitioner’s Assurance

June 28, 2021

Mr. Toshiki Kawai,
Representative Director, President & CEO,
Tokyo Electron Ltd.

Masaaki Sugiyama
Representative Director
Deloitte Touche Tohmatsu Sustainability Co., Ltd.
3-2-3, Manzamachi, Chiyoda-ku, Tokyo

We have undertaken a limited assurance engagement of the CO2 Emissions from energy consumption in Japan, the Water consumption in Japan, Female managers percentage in Japan and Annual paid leave take-up rate in Japan indicated with *6 for the year ended March 31, 2021 (the “Sustainability Information”) included in the “TOKYO ELECTRON SUSTAINABILITY REPORT 2021” (the “Report”) of Tokyo Electron Ltd. (the “Company”).

The Company’s Responsibility

The Company is responsible for the preparation of the Sustainability Information in accordance with the calculation and reporting standard adopted by the Company (indicated with the Sustainability Information included in the Report). CO2 quantification is subject to inherent uncertainty for reasons such as incomplete scientific knowledge used to determine emissions factors and numerical data.

Our Independence and Quality Control

We have compiled with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. We apply International Standard on Quality Control 1, Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements, and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Sustainability Information based on the procedures we have performed and the evidence we have obtained. We conducted our limited assurance engagement in accordance with the International Standard on Assurance Engagements (“ISAE”) 3000, Assurance Engagements Other than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standards Board (“IAASB”). ISAE 3400, Assurance Engagements on Greenhouse Gas Statements, issued by the IAASB and the Practical Guidance for the Assurance of Sustainability Information, issued by the Japanese Association of Assurance Organizations for Sustainability Information.

The procedures we performed were based on our professional judgment and included inquiries, observation of processes performed, inspection of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records. These procedures also included the following:

- Evaluating whether the Company’s methods for estimates are appropriate and had been consistently applied. However, our procedures did not include testing the data on which the estimates are based or reperforming the estimates.
- Performing interviews of responsible persons and inspecting documentary evidence to assess the completeness of the data, data collection methods, source data and relevant assumptions applicable to the sites.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement.

Limited Assurance Conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Sustainability Information is not prepared, in all material respects, in accordance with the calculation and reporting standard adopted by the Company.

The above represents a translation, for convenience only, of the original Independent Practitioner’s Assurance report issued in the Japanese language.