



TOKYO ELECTRON
SUSTAINABILITY
REPORT 2021

Centaurea cyanus (Germany)

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



TOKYO ELECTRON LIMITED

Akasaka Biz Tower, 3-1 Akasaka 5-chome,
Minato-ku, Tokyo 107-6325, Japan
Tel: +81-3-5561-7000
www.tel.com

TEL is a trademark or registered trademark of Tokyo Electron Limited in Japan and other countries.

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)

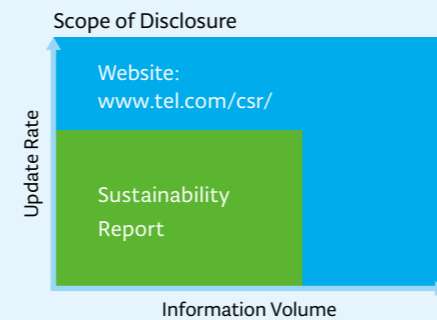
Period Covered

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

Contact

Akasaka Biz Tower 3-1 Akasaka 5-chome, Minato-ku, Tokyo 107-6325, Japan
CSR Operations Dept., Tokyo Electron Limited
Tel: +81-3-5561-7402

URL [Inquiry Point URL: www.tel.com/contactus/](http://www.tel.com/contactus/)



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.

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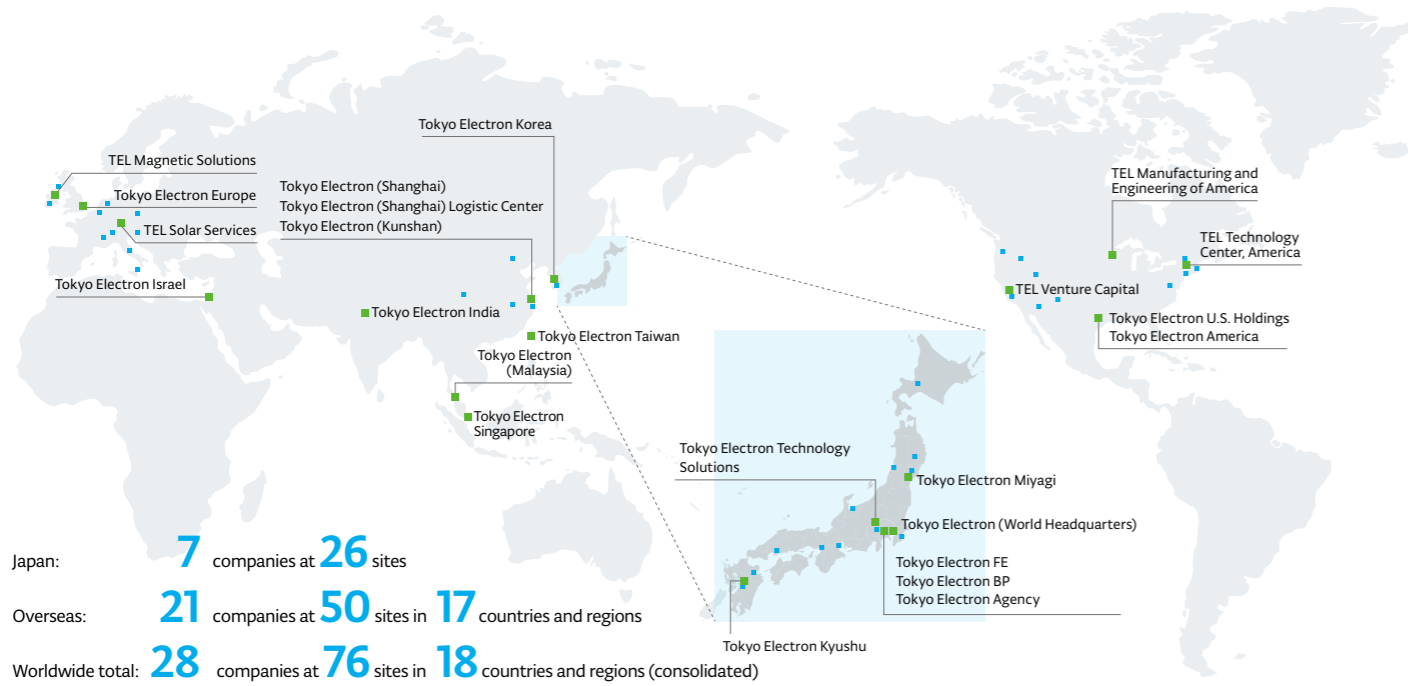
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Company Overview

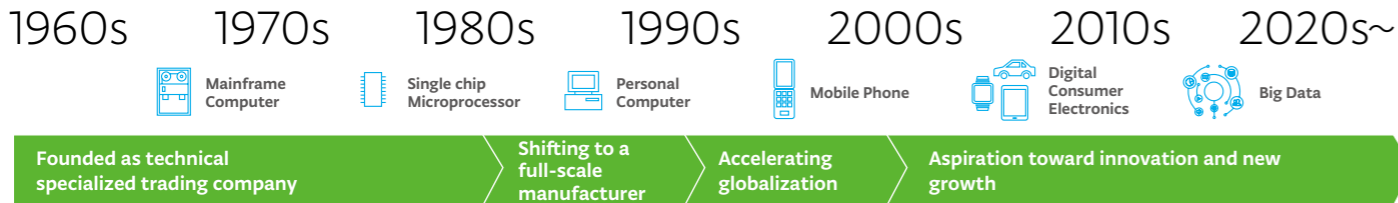
Tokyo Electron operates worldwide as a leading company in semiconductor and flat panel display (FPD) production equipment. By providing the Best Products and Best Technical Service, we are aiming for medium- to long-term profit expansion and continuous corporate value enhancement. We are also practicing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

Number of Sites (As of March 31, 2021)

- Head office
- Branch, Office (including Field Service), Sales Office

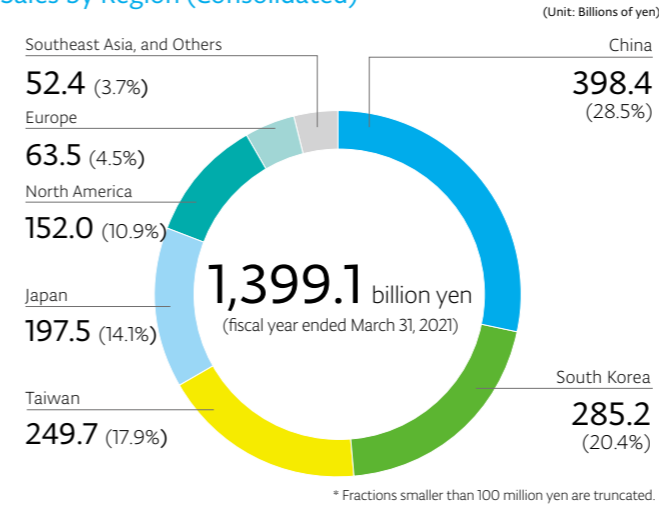


History

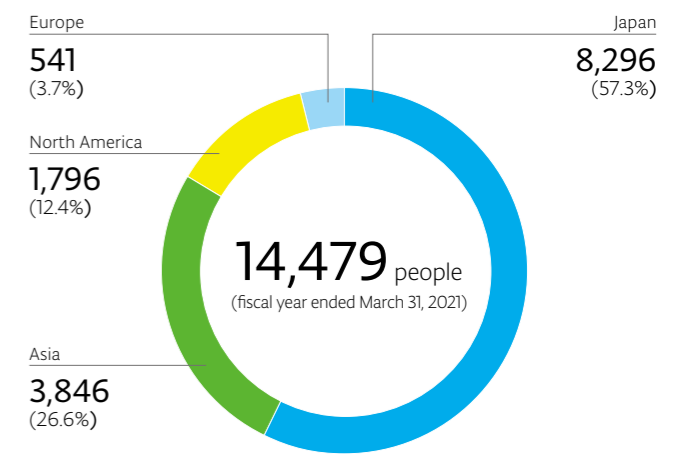


<p>1963 Tokyo Electron Laboratories, Inc. is established with capital from Tokyo Broadcasting System, Inc.</p> 	<p>1978 Tokyo Electron Laboratories, Inc. renamed Tokyo Electron Ltd.</p> 	<p>1980 Listed on the Second Section of the Tokyo Stock Exchange</p> 	<p>1990s Enhanced the group structure in Japan by, for example, establishing service and manufacturing companies, and set up overseas subsidiaries throughout the world</p>	<p>2006 "TEL Values" formulated as code of conduct</p>	<p>2015 Establishment of Tokyo Electron Corporate Governance Guidelines</p>
<p>1964 TEL acquires importing and selling rights for diffusion furnace manufactured by Thermco Products Corp. (U.S.) and begins sales</p> 	<p>1984 Listed on the First Section of the Tokyo Stock Exchange</p> 	<p>1990 TEL marks a major move into development and marketing of FPD production equipment</p>	<p>2007 Established "TEL UNIVERSITY" to strengthen human resource development</p> 	<p>2015 Re-emergence as the New TEL (Vision, Medium-term Management Plan formulated and new Corporate Logo created)</p> 	<p>2019 Revision of the Medium-term Management Plan to further enhance corporate value</p>
<p>1968 TEL-Thermco Engineering Co., Ltd. began domestic production of diffusion furnaces</p> 	<p>1994 Started direct sales and support systems overseas</p>	<p>1999 Category of industry on the Tokyo Stock Exchange First Section changed from "Wholesale Trade" to "Electric Appliances"</p>			

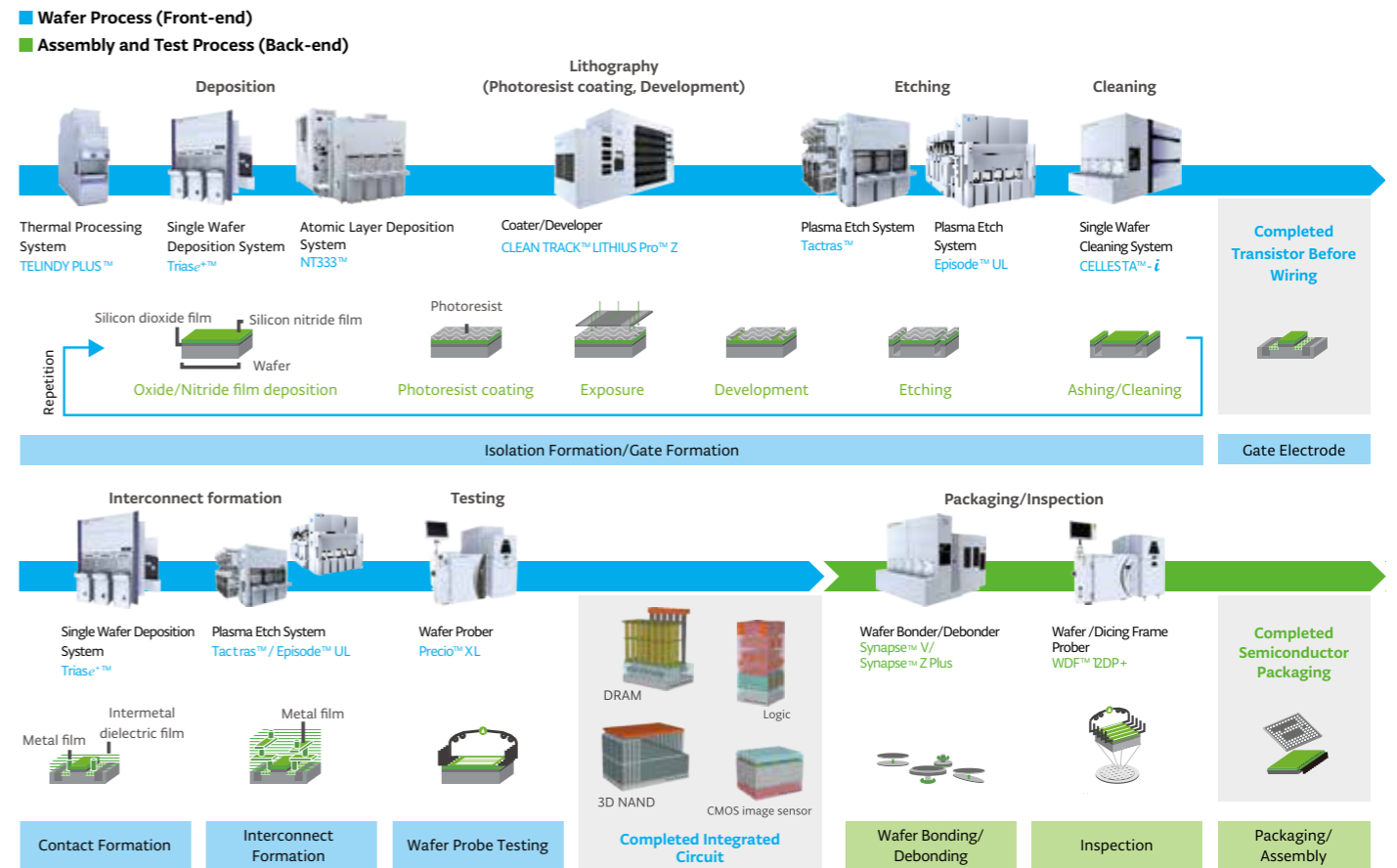
Sales by Region (Consolidated)



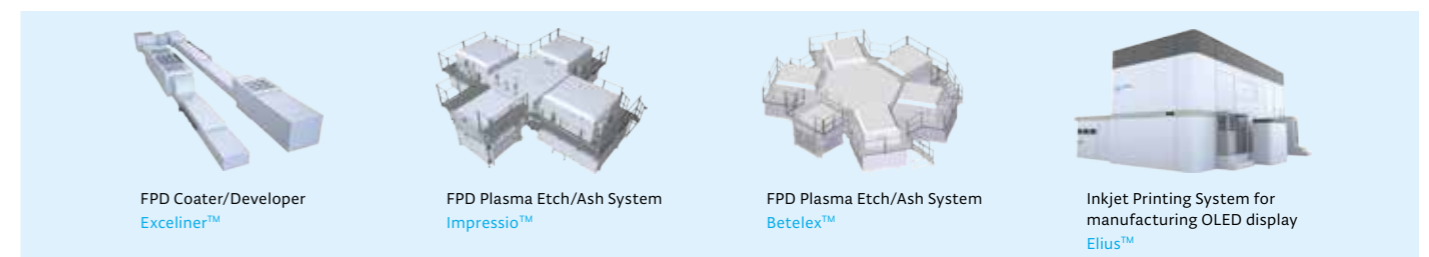
Number of Employees by Region (Consolidated)



Semiconductor Manufacturing Process and Our Main Products



FPD Production Equipment





CEO's Message

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.

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.

Toshiki Kawai
Representative Director, President & CEO
Tokyo Electron Limited

Tokyo Electron's CSR

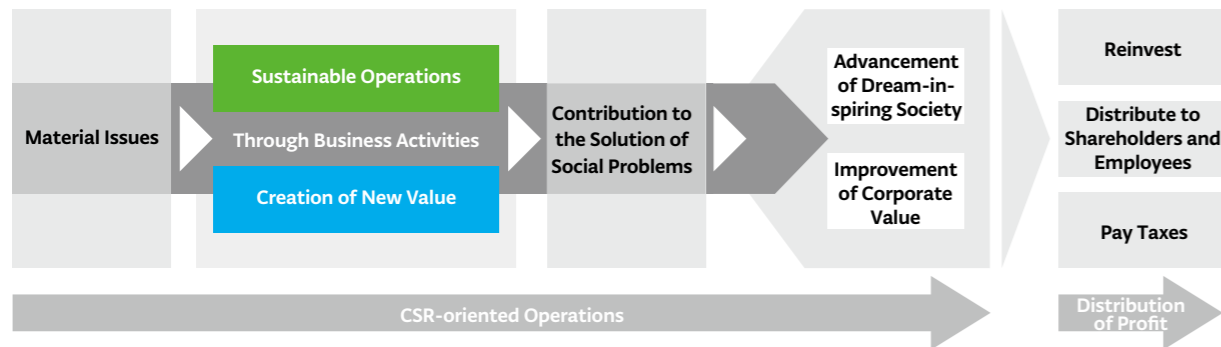
Tokyo Electron's Corporate Philosophy

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. Three groups have been established to promote CSR activities.

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

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.

Conference Name	Participants	Function	Meeting Frequency
CSR Management Council	<ul style="list-style-type: none"> Chairman of the Board Representative Director, President & CEO Corporate Directors and Managers 	<ul style="list-style-type: none"> Decide company-wide CSR policy Discuss important matters 	Twice annually
CSR Global Committee	<ul style="list-style-type: none"> Chief CSR Promotion Director Heads of related departments CSR managers of the Group companies in Japan and overseas companies 	<ul style="list-style-type: none"> Manage progress of activities for achieving CSR goals Implement global projects Share best practices 	Twice annually
CSR Monthly Meeting	<ul style="list-style-type: none"> Person in charge of CSR at each division 	<ul style="list-style-type: none"> Share information on CSR activities Discuss cross-division CSR initiatives 	Monthly

In addition to these groups, once a year we invite all employees to submit examples of CSR in the workplace, toward issue resolution and advancement of industry and society, and practice of our Corporate Philosophy. Outstanding initiatives are awarded the CSR Promotion Award by the Representative Director, President & CEO.



CSR Promotion Award Certificate

Initiatives for Sustainable Development Goals (SDGs)

The SDGs are a universal set of goals to achieve by 2030, which were unanimously adopted by the United Nations Sustainable Development Summit in 2015. We conduct activities on a company-wide basis, and for each CSR fiscal year and medium-term goal, and each material issue, we clarified the SDGs it is working toward through business.

Additionally, starting in fiscal year 2021, we have been on a regular basis holding SDGs workshops where employees working in a variety of fields come together and discuss various suggestions for contributing to the achievement of SDGs through business.



Tokyo Electron Supports the SDGs

Participation in Global Initiatives

We signed onto the United Nations Global Compact (UNGC¹) and support its Ten Principles in the four areas of Human Rights, Labour, Environment, and Anti-Corruption, to realize sound globalization and a sustainable society.

Additionally, as a corporate member of the Responsible Business Alliance (RBA²), we promote sustainability in our supply chain by abiding by the RBA Code of Conduct comprised of five framework sections (Labor, Environment, Health and Safety, Ethics and Management Systems).

In addition, we have expressed our approval of the recommendations offered by the Task Force on Climate-related Financial Disclosures (TCFD³) and are pursuing initiatives based on the framework of governance, strategy, risk management, indicators and targets relating to the risks and opportunities that climate change presents to our business.



UN Global Compact



Responsible Business Alliance



Task Force on Climate-related Financial Disclosures

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 DJSI⁴ Asia Pacific Index, FTSE4Good Index⁵ and MSCI World ESG Leaders Indexes⁶, and in 2021, we were also rated as a low-risk company in Sustainalytics' ESG Risk Ratings⁷.



DJSI Asia Pacific 2020



FTSE4Good Index



MSCI World ESG Leaders Indexes



Sustainalytics' ESG Risk Ratings

Financial Model in the Medium-Term Management Plan

In addition to pursuing sustainable operations in line with its CSR policy, we are also striving for medium- to long-term profits and ongoing corporate value enhancement by 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 generating and returning appropriate profits to shareholders in the event of changes in the macro-economy or in the semiconductor supply-demand balance.

FY2021 Actual/Financial Model in the Medium-Term Management Plan

	FY2021 (Actual)	Financial Model (By FY 2024)		
Net Sales	1,399.1 billion yen	1,500 billion yen	1,700 billion yen	2,000 billion yen
Operating Margin	22.9%	26.5%	28.0%	>30.0%
ROE	26.5%		>30.0%	

¹ The United Nations Global Compact (UNGC): An initiative proposed to corporations by then UN Secretary-General Kofi Annan at the 1999 World Economic Forum. We signed onto the Compact in 2013.

² RBA: An international initiative promoting supply chain sustainability focused on the electronics industry. We have been a member since 2015.

³ TCFD: Task Force on Climate-related Financial Disclosures. We have expressed approval of the recommendations since 2020.

⁴ DJSI: Dow Jones Sustainability Indices. An ESG (environmental, social and governance) investment index. The Asia Pacific covers companies in that region.

⁵ FTSE4Good Index: An index related to environmental performance and corporate social responsibility.

⁶ MSCI World ESG Leaders Indexes: Companies that have high ESG performance are selected from the MSCI Global Sustainability Index, an ESG investment index developed by MSCI.

⁷ Sustainalytics' ESG Risk Ratings: An ESG risk assessment for institutional investors by Sustainalytics in the Netherlands. The rating is based on a company's exposure to industry-specific material ESG risks and how well those risks are being managed. Copyright ©2021 Sustainalytics. All rights reserved. This article contains information developed by Sustainalytics (www.sustainalytics.com). Such information and data are proprietary of Sustainalytics and/or its third party suppliers (Third Party Data) and are provided for informational purposes only. They do not constitute an endorsement of any product or project, nor an investment advice and are not warranted to be complete, timely, accurate or suitable for a particular purpose. Their use is subject to conditions available at <https://www.sustainalytics.com/legal-disclaimers>.

⁸ Please check the link for the logo's disclaimer. <https://www.tel.com/csr/review/>

⁹ ROE: Return On Equity

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, and national governments, 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 technologies to achieve larger capacity, higher speed, higher reliability and lower power consumption, the market for semiconductor wafer fab equipment (WFE*), in which we conduct our business, is forecast to continue expanding.

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 increase even further 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
Environment	<ul style="list-style-type: none"> 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 business costs. 	<ul style="list-style-type: none"> 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 semiconductors
Human rights	<ul style="list-style-type: none"> If we fail to comply with laws and regulations, industry codes of conduct, or in-house policy, social credibility and employee engagement will decline. 	<ul style="list-style-type: none"> Create a workplace environment that respects employee diversity and enables all employees to demonstrate their full capabilities, improve employee turnover rate and promote health management
Supply chain management	<ul style="list-style-type: none"> If a natural disaster occurs, or it becomes impossible to continue business transactions with suppliers, events such as delivery delays and contractual non-performance will harm business continuity. If sustainability-related issues such as the environment and human rights become more serious, operations will stagnate. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> If management's monitoring or supervising function declines, management risk will increase, and business activities will stagnate. 	<ul style="list-style-type: none"> Enhance corporate value on a medium- to long-term basis, gain stakeholders' trust and increase social credibility
Compliance	<ul style="list-style-type: none"> If an ethical or compliance violation occurs, we will lose social credibility and suffer economic loss. 	<ul style="list-style-type: none"> Operate healthy corporate activities by complying with laws and regulations, industry codes of conduct, corporate ethics, and other rules
Evolution of technology	<ul style="list-style-type: none"> If the development of leading-edge technologies is delayed, we will lose business opportunities. 	<ul style="list-style-type: none"> Create ground-breaking innovations, strengthen competitive superiority and contribute to industry and societal issue resolution and growth
Information security	<ul style="list-style-type: none"> If confidential information is leaked, social credibility will decline, and compensation for damages be required. If a cyber-attack or natural disaster occurs, our business will stagnate. 	<ul style="list-style-type: none"> Build a rock-solid information infrastructure by strengthening information security, and improve information literacy

* WFE: Wafer Fab Equipment. The semiconductor production process is divided into front-end production, in which circuits are formed on wafers and inspected, and back-end production, in which wafers are cut into chips, assembled and inspected again. WFE refers to the production equipment used in front-end production and in wafer-level packaging production.

Stakeholder Engagement

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

Stakeholders	Main Engagement Opportunities	Key Opinions and Requests
Shareholders/ investors	<ul style="list-style-type: none"> Earnings release conference, Medium-term Management Plan briefing, non-financial briefing (IR Day) IR conference, IR road show¹, individual IR interview Shareholders' Meeting 	<ul style="list-style-type: none"> Medium- to long-term growth scenario and associated measures Further initiatives for governance Capital policy, including shareholder return
Customer	<ul style="list-style-type: none"> Technology conference Customer satisfaction survey Joint development 	<ul style="list-style-type: none"> Understand diverse application needs and suggest solutions to satisfy them Maximize equipment performance and productivity Comprehensive and optimal solutions
Suppliers	<ul style="list-style-type: none"> Production update briefing TEL Partners Day STQA² audit 	<ul style="list-style-type: none"> Share high-quality information related to production and technology trends in a timely manner Improve our company's operation by complying with the expected quality standards
Employees	<ul style="list-style-type: none"> Employee meeting Global engagement survey Career interest survey (Japan) 	<ul style="list-style-type: none"> Share the management policy further Provide medium- to long-term career development opportunities for employees Create work environment in which diverse human resources can thrive
Local communities	<ul style="list-style-type: none"> Community contribution activities Tours of plants and offices Environmental debriefing 	<ul style="list-style-type: none"> Coexistence of the company with communities Promotion of environment conservation Human resource development and innovation
Governments/ associations	<ul style="list-style-type: none"> Industry group activities Collaboration with various initiatives 	<ul style="list-style-type: none"> Create new values through innovation Initiatives targeted at climate change, human rights, etc. Building of sounder supply chains

¹ IR roadshows: IR activities presented directly to shareholders and investors
² STQA: Supplier Total Quality Assessment

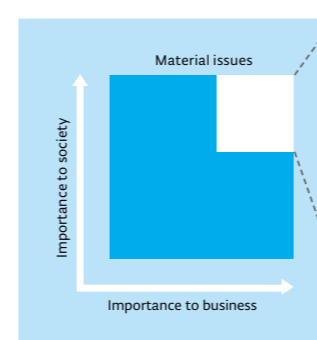
Identifying Material Issues

We have ascertained 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 previously 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	<ul style="list-style-type: none"> Create strong next-generation products 	<ul style="list-style-type: none"> Tackling technological innovation
Customer responsiveness	<ul style="list-style-type: none"> Be the sole strategic partner 	<ul style="list-style-type: none"> Solutions that create value for customers Improvement of customer satisfaction
Higher productivity	<ul style="list-style-type: none"> Continually improve operational efficiency 	<ul style="list-style-type: none"> Continuous improvement of business operations Quality management Improvement of customer productivity/yield
Management foundation	<ul style="list-style-type: none"> Build a strong management foundation for underpinning our business activities 	<ul style="list-style-type: none"> Diversity and inclusion Career development Work-life balance Health and safety Governance Risk management Compliance Environmental contribution of products Environmental management Supply chain management

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

Material Issues	Priority Themes	Annual Goals	Results
Product competitiveness	Tackling technological innovation	<ul style="list-style-type: none"> Ensure that 20% or more (three-year moving average) of all equipment models are new products for next-generation technologies Maintain the previous year's global patent application rate (±10%) 	<ul style="list-style-type: none"> 23.6% Maintained the previous year's rate (Achieved 79.8% in fiscal year 2020 and 74.3% in fiscal year 2021)
	Environmental contribution of products	<ul style="list-style-type: none"> Reduce per-wafer emissions of CO₂ by 20% by fiscal year 2025 (compared with fiscal year 2014) 	<ul style="list-style-type: none"> Reduced by 16% in fiscal year 2021 as compared with fiscal year 2014
Customer responsiveness	Solutions that create value for customers	<ul style="list-style-type: none"> Increase Tokyo Electron's value to customers Increase sales-in-field solutions business by 5% or more from the fiscal year 2020 level 	<ul style="list-style-type: none"> Orders and sales both increased significantly from the previous fiscal year, driven by demand for smartphones and servers Increased by 19.6% from previous fiscal year
	Improvement of customer satisfaction	<ul style="list-style-type: none"> Achieve evaluations of "Very Satisfied" or "Satisfied" for 100% of customer satisfaction survey responses 	<ul style="list-style-type: none"> 96.7% (achieved in 29 out of 30 questions)
Higher productivity	Continuous improvement of business operations	<ul style="list-style-type: none"> Target a 10% improvement in operational efficiency as a medium- to long-term goal, achieve centralized data management through adoption of a new ERP¹ system, and build a business foundation where employees can focus even more on high-value work Expand implementation of CRM² and PLM³, and adopt new ERP during fiscal year 2021 	<ul style="list-style-type: none"> Expanded CRM to multiple overseas subsidiaries Expanded PLM to multiple domestic manufacturing sites in Japan Almost completed preparations for adopting ERP
	Quality management	<ul style="list-style-type: none"> Check the impact of important non-conformance items on other equipment and thoroughly implement recurrence prevention measures 	<ul style="list-style-type: none"> Finished revising new QA-BOX operation rules Started regular meetings with the heads of all BU quality assurance divisions Implemented progress management for QA-BOX submissions
	Improvement of customer productivity/yield	<ul style="list-style-type: none"> Promote Shift Left⁴ (front-loading) activities for quality Increase engineer time for high-value work in upstream processes, and implement medium- to long-term action plans to continue to enhance quality assurance activities 	<ol style="list-style-type: none"> Completed each company's individual/common activity plans. Each company is currently carrying out individual activities as planned. Common activities: Formulated activity policy based on best practices. Agreed on activity policy with the heads of each quality assurance division. Formulated medium- to long-term plans. Formulated plans, started activities.
People and workplaces	Diversity and inclusion	<ul style="list-style-type: none"> Double the percentage of female managers and experts (with same roles and responsibilities as managers) by fiscal year 2022 from 2.0%⁵ in fiscal year 2019 	<ul style="list-style-type: none"> 2.5% (Reference) Percentage of female managers: 2.2% (Japan), 5.2% (global)
	Career development	<ul style="list-style-type: none"> Foster a culture of learning and development in the workplace through Leader development programs, provision of personalized global learning opportunities, and support for career development throughout working life 	<ol style="list-style-type: none"> Increased number of leader training participants year-on-year change: 104% (Japan) Increased number of external web based training courses taken year-on-year change: 158% (Japan) Increased number of participants of career training for senior employees year-on-year change: 149% (Japan)
	Work-life balance	<ul style="list-style-type: none"> Reach at least 70% take-up rate of annual paid leave 	<ul style="list-style-type: none"> 62.5% (Japan)
	Health and safety	<ul style="list-style-type: none"> Reduce gap between health age⁶ and actual age by 1.5 points by fiscal year 2021 (as compared with fiscal year 2018) Reduce the number of workplace injuries per 200,000 work hours. Target: TCIR (the total case incident rate) is less than 0.5. 	<ul style="list-style-type: none"> Reduced gap by 0.21 points (Japan) Achieved 0.27
Management foundation	Governance	<ul style="list-style-type: none"> Continue to improve on issues identified in evaluations of the effectiveness of the Board of Directors 	<ul style="list-style-type: none"> Revised Board of Directors Regulations and established the Business Execution Meeting to improve the effectiveness of the Board of Directors Revised the Affiliated Companies Management Regulations from the perspective of strengthening group governance. Confirmed status of operations based on the regulations with each division Implemented SR⁷ activities with institutional investors with an eye to Shareholders' Meeting proposals and ESG-related issues Held discussions at off-site meetings on medium- to long-term strategies
	Risk management	<ul style="list-style-type: none"> Promote an integrated risk management system throughout our Group, Adopt Control Self Assessment (CSA), and establish and operate a risk management committee 	<ol style="list-style-type: none"> Conducted assessments using checklists at overseas and domestic group companies, identified risks and examined countermeasures Established the Risk Management Committee and held meetings (Mar. 2021)
	Compliance	<ul style="list-style-type: none"> Achieve 100% recognition among employees concerning internal hotline Revise Code of Ethics, conduct basic annual training, and achieve pledge rate of 100% Conduct a compliance awareness survey 	<ul style="list-style-type: none"> Recognition of internal hotline: 68% Code of Ethics education and pledge rate: 98.8% Awareness survey (Trial survey planned for fiscal year 2022)
	Environmental management	<ul style="list-style-type: none"> Reduce energy consumption by 1% from the fiscal year 2020 level (per-unit basis⁸) at each plant or office Maintain water consumption (per-unit basis⁹) at plants and offices at the fiscal year 2012 level in Japan and at individual base year levels overseas 	<ul style="list-style-type: none"> Achieved goal at 1 of 11 plants or offices Achieved 10 of 13 goals
	Supply chain management	<ul style="list-style-type: none"> Implement supply chain CSR assessments for the following percentages of suppliers: Material suppliers: Covering at least 80% of our procurement spend Logistics suppliers: 100% of customs-related operators Staffing suppliers: 100% of employment agencies and contracting companies (internal contractors) Implement supply chain BCP¹⁰ assessments for the following percentages of suppliers: Material suppliers: Covering at least 80% of our procurement spend 	<ul style="list-style-type: none"> Percentage of suppliers at which supply chain CSR assessments were implemented: Material suppliers: Achieved 80% or more of our procurement spend Logistics suppliers: Achieved 100% of customs-related operators Staffing suppliers: Achieved 100% of employment agencies and contracting companies (internal contractors) Percentage of suppliers at which supply chain BCP assessments were implemented: Material suppliers: Achieved 80% or more of our procurement spend
	Environmental contribution of products	<ul style="list-style-type: none"> Reduce per-wafer emissions of CO₂ by 30% (by fiscal year 2031, compared with fiscal year 2019) Reduce the amount of the use of wooden packaging materials by 50% (packaging for semiconductor production equipment, fiscal year 2024) 	<ul style="list-style-type: none"> Reduced total CO₂ emissions at plants and offices by 70% (by fiscal year 2031, compared with fiscal year 2019) Adopt 100% renewable energies at plants and offices (by fiscal year 2031) Reduce energy consumption by 1% from the fiscal year 2021 level (per-unit basis) at each plant or office Maintain water consumption (per-unit basis) at each plant and office at the fiscal year 2012 level in Japan and at individual base year levels overseas

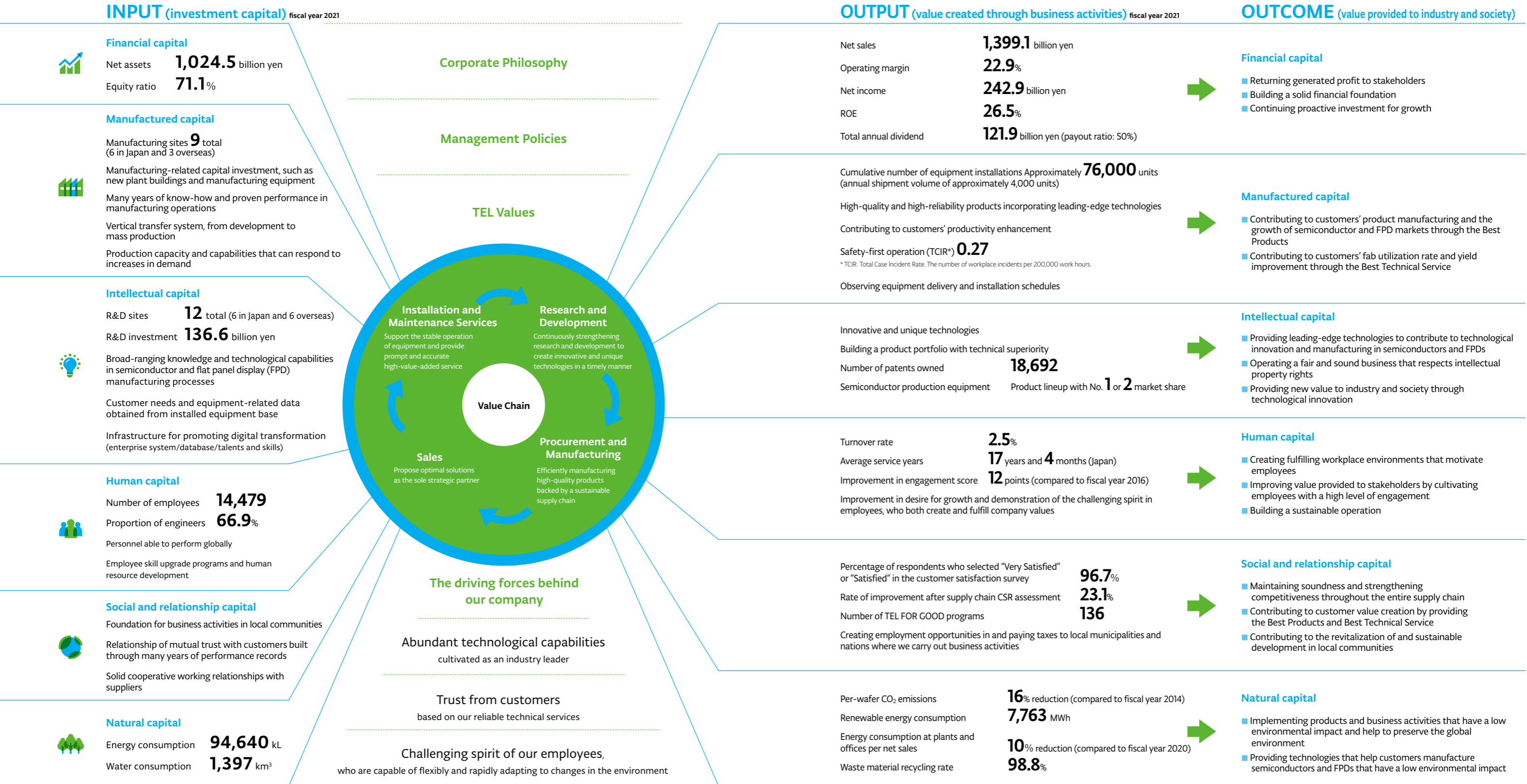
1 ERP: Enterprise Resource Planning 2 CRM: Customer Relationship Management 3 PLM: Product Lifecycle Management 4 Shift Left: Refer to p.17 and p.31
 5 Senior specialists were included in the 2.0% figure in fiscal year 2019 6 An indication of the risk of lifestyle diseases in years, based on the results of health checkups 7 SR: Shareholder Relations
 8 Per-unit basis: Calculated using complex weighting of the number of developed evaluation machines, units produced, floor area, and labor-hours for each district
 9 Per-unit basis: Calculated based on floor area and labor-hours, etc. for each district 10 BCP: Business Continuity Plan 11 For each question, average score is calculated for all customers who responded
 12 The ratio of females majoring in science or engineering in the case of engineers

FY2022

Material Issues	Priority Themes	Annual Goals	Medium-term Goals	Relevant SDGs
Product competitiveness	Tackling technological innovation	<ul style="list-style-type: none"> Ensure that 20% or more (three-year moving average) of all equipment models are new products for next-generation technologies Maintain the previous year's global patent application rate (±10%) 	Create strong next-generation products	 
Customer responsiveness	Solutions that create value for customers	<ul style="list-style-type: none"> Increase Tokyo Electron's value to customers Increase sales-in-field solutions business by 5% or more from the fiscal year 2021 level 	Be the sole strategic partner	 
	Improvement of customer satisfaction	<ul style="list-style-type: none"> Achieve evaluations of "Very Satisfied" or "Satisfied" for 100% of customer satisfaction survey responses¹¹ 		
Higher productivity	Continuous improvement of business operations	<ul style="list-style-type: none"> Target a 10% improvement in operational efficiency as a medium- to long-term goal, achieve centralized data management through adoption of a new ERP system, and build a business foundation where employees can focus even more on higher value work Adopt ERP at headquarters Prepare to adopt ERP at manufacturing sites in Japan and overseas subsidiaries 	Constantly pursue higher management efficiency	 
	Quality management	<ul style="list-style-type: none"> Check the impact of important common issues and thoroughly implement measures to prevent recurrence of similar faults Verify the effects of strengthening the quality information environment 		
	Improvement of customer productivity/yield	<ul style="list-style-type: none"> Promote Shift Left (front-loading) activities for quality Identify risks and thoroughly implement countermeasures from the initial development stage (thorough prevention) 		
Diversity and inclusion	Diversity and inclusion	<ul style="list-style-type: none"> Implement initiatives to make the ratio of females in management positions equal to the ratio of females in the company over the medium term Implement initiatives to make the ratio of female recruits equal to or greater than the general ratio of females¹² in each region Create an organizational system where even those from outside of Japan can take on corporate roles through the use of technology and shared global human resources systems 	Build a strong management foundation for underpinning our business activities	    
	Career development	<ul style="list-style-type: none"> Foster a culture of learning and development in the workplace through Leader development programs Provision of personalized global learning opportunities Support for career development throughout working life 		
	Work-life balance	<ul style="list-style-type: none"> Reach at least 70% take-up rate of annual paid leave 		
	Health and safety	<ul style="list-style-type: none"> Increase the percentage of employees receiving specific health guidance to 60% (figures based on the results of medical checkups up to the end of fiscal year 2024) Reduce the number of workplace injuries per 200,000 work hours Target: TCIR (the total case incident rate) is less than 0.5 		
Management foundation	Governance	<ul style="list-style-type: none"> Continue to improve on issues identified in evaluations of the effectiveness of the Board of Directors 	Build a strong management foundation for underpinning our business activities	    
	Risk management	<ul style="list-style-type: none"> Promote an integrated risk management system throughout our Group Ongoing rollout of CSA Unified classification and response to risks to the entire Group Launch of internal education program Roll out in Japan in fiscal year 2022 and overseas in fiscal year 2023 		
	Compliance	<ul style="list-style-type: none"> Continuous cultivation of a compliance culture Provide Code of Ethics training and achieve a pledge rate of 100% Implement and improve a compliance survey Achieve 100% recognition of the internal hotline among employees 		
	Environmental contribution of products	<ul style="list-style-type: none"> Reduce per-wafer emissions of CO₂ by 30% (by fiscal year 2031, compared with fiscal year 2019) Reduce the amount of the use of wooden packaging materials by 50% (packaging for semiconductor production equipment, fiscal year 2024) 		
	Environmental management	<ul style="list-style-type: none"> Reduce total CO₂ emissions at plants and offices by 70% (by fiscal year 2031, compared with fiscal year 2019) Adopt 100% renewable energies at plants and offices (by fiscal year 2031) Reduce energy consumption by 1% from the fiscal year 2021 level (per-unit basis) at each plant or office Maintain water consumption (per-unit basis) at each plant and office at the fiscal year 2012 level in Japan and at individual base year levels overseas 		
	Supply chain management	<ul style="list-style-type: none"> Implement supply chain CSR assessments for the following percentages of suppliers: Material suppliers: Covering at least 80% of our procurement spend Logistics suppliers: 100% of customs-related operators Staffing suppliers: 100% of employment agencies and contracting companies (internal contractors) Implement supply chain BCP assessments for the following percentages of suppliers: Material suppliers: Covering at least 80% of our procurement spend 		

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.



Product Competitiveness

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.

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

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

Research and Development

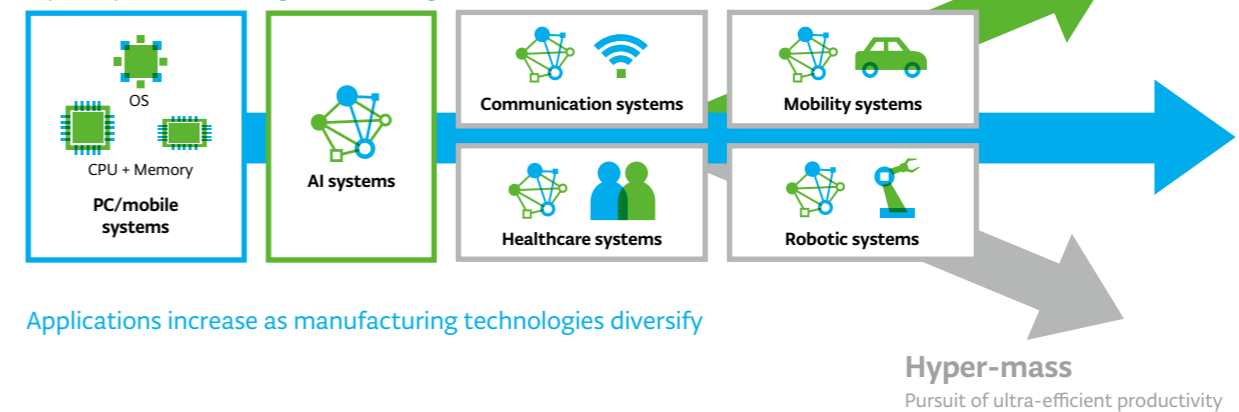
Research and Development for the Future

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 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 transformation¹ 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 create a development system that is mindful of the environment, health and safety.



¹ Digital transformation: Refer to p. 19

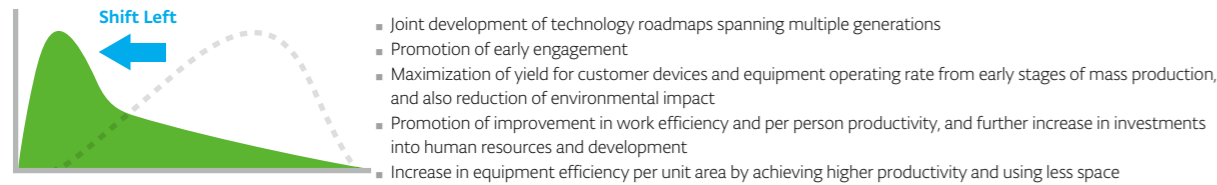
² CSS: Composed of Vice President and General Managers of Tokyo Electron, Presidents from overseas subsidiaries

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 even 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 the period between technology development and the conversion to mass production equipment and maximizing efficiency.

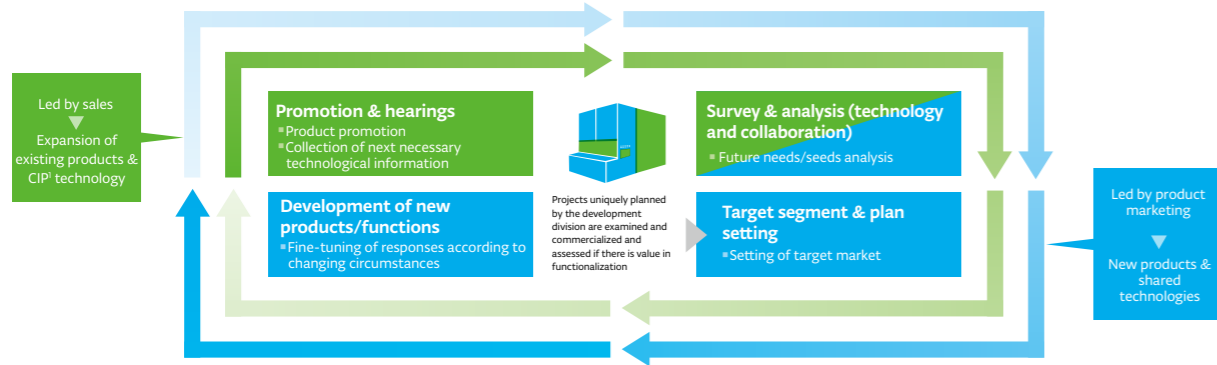


Product Marketing

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, services and the examination of value-adding mechanisms. They also consider the commercialization of technology and the addition of functions based on the seeds 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 product 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.

Involvement in Product Development by Sales Departments and Product Marketing Departments



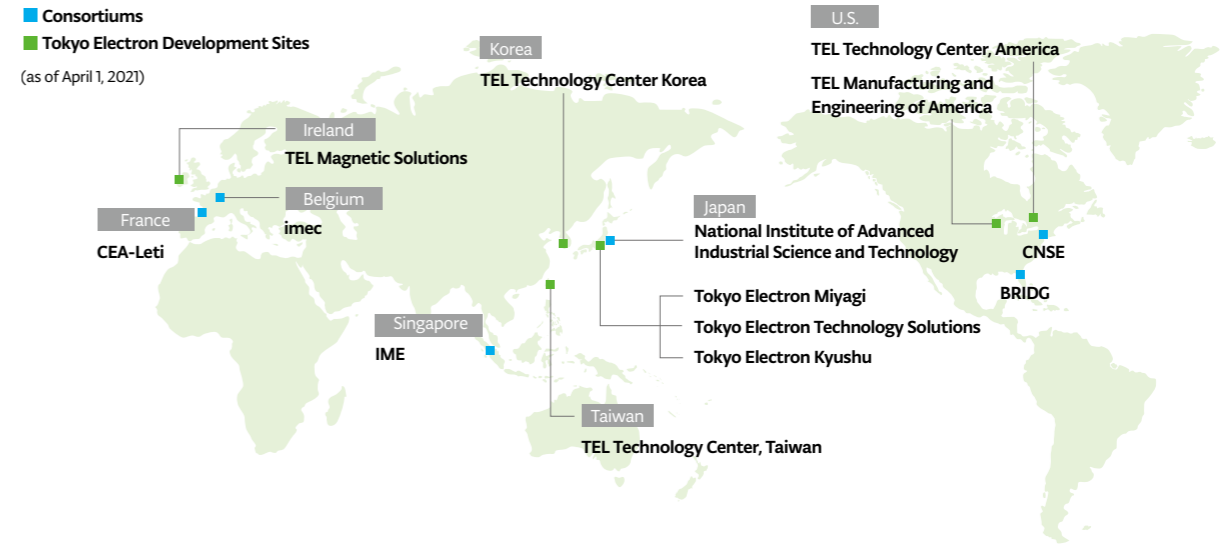
Collaboration with Consortiums and Academia

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 BRIDG², a not-for-profit, public-private partnership located in the U.S. state of Florida, by strengthening collaboration in the field of EUV³ at imec and by accelerating our research in the front-end and back-end fields⁴ at TTCA⁵.

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 MRAM¹-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.

¹ MRAM: Magnetoresistive Random-Access Memory



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 element technologies 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 needs 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.

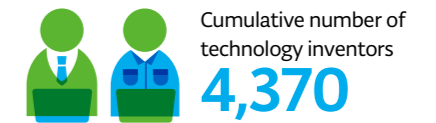
Intellectual Property Management

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. Those 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 rate² of approximately 70% for the tenth consecutive year and achieved high patent approval rates (85% in Japan and 87% in the United States). The number of joint patent applications in collaboration with partner 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 management education.



² Global patent application rate: Percentage of inventions filed as a patent application in multiple countries

¹ CIP: Continuous Improvement Program

² BRIDG: BRIDG is a not-for-profit, public-private partnership specializing in advanced system integration, microelectronics fabrication, III-V materials deposition for sensors, optoelectronics and high-speed transistors. BRIDG offers production process technologies, research and development capabilities and 200 mm microelectronics fabrication geared toward system miniaturization, device integration, hardware security and product development key to aerospace/defense and the IoT/AI revolution. Supported by Osceola County, University of Central Florida, Florida High Tech Corridor Council and others, BRIDG provides the physical foundry infrastructure and collaborative process to connect challenges and opportunities with solutions; "Bridging the Innovation Development Gap" making commercialization possible.

³ EUV: Extreme Ultraviolet. Refers to ultraviolet radiation (ultraviolet rays) in the wavelength range 1–100 nm.

⁴ Front-end/Back-end fields: In the fabrication of semiconductor devices, the first half of the upstream process is called "front-end-of-line" (FEOL) processing (substrate) and the second half is called "back-end-of-line" (BEOL) processing (wiring).

⁵ TTCA: TEL Technology Center, America, LLC. Our research and development center in the U.S.

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 are working for a solution.

Modern computing is not necessarily optimized for power efficiency. The mainstream solution to this problem these days 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, CPUs² and DRAMs³. Specific combinations applying this technology are expected to reduce power consumption to between 1/100th and 1/1000th of conventional architecture.

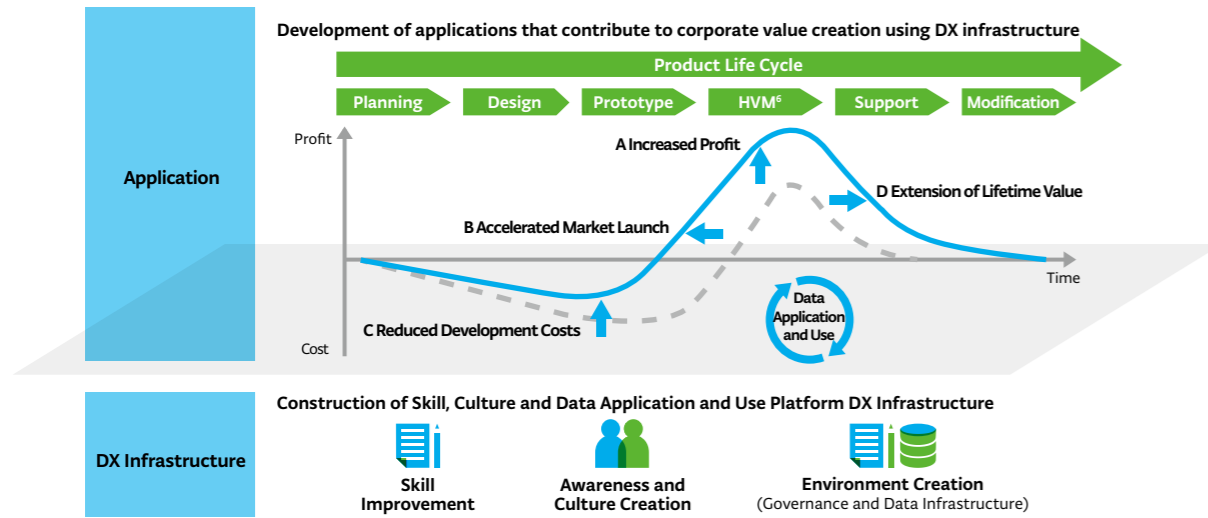
Furthermore, the development of resistive analog neuro devices⁴ and nonvolatile resistive random access memory⁵ that simulate the human brain is essential to the evolution of AI technology, and our film deposition technology is contributing to this.

Realizing next-generation computing requires the development of AI chipsets 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 chipsets through 3D system integration, and we are rolling out initiatives aimed at optimizing the power efficiency of semiconductors and realizing next-generation computing.

Promoting Digital Transformation (DX)

DX promotion, which is making waves across the global industrial world, is also becoming more prominent in the semiconductor and flat panel display (FPD) production equipment industries. Having positioned DX as an important part of the solution to the demand for further miniaturization and multi-layering, in January 2021, we formulated the TEL DX Vision of “a global company where all employees drive enterprise value creation sustainably through activities such as value addition and efficiency improvements by leveraging digital technology”. The two key objectives of this are to contribute to customers’ value creation in a range of settings from development to mass production and to raise capital efficiency in a range of settings from the product planning stage to maintenance. We will achieve these two objectives by resolving high-level problems via a cycle of monitoring, analysis and prediction, control and autonomy.

Image of DX Usage



We are also proceeding with the practical application of TELeMetrics™, which remotely connects our company with our customers’ manufacturing site, thereby enabling remote maintenance, as well as remote support for equipment using AR⁷ smart glasses and material searches utilizing AI.

1 Heterogeneous Integration: Packaging that unites different kinds of chips

2 CPU: Central Processing Unit. A semiconductor chip that serves as the brain of a computer.

3 DRAM: Dynamic Random Access Memory. A type of semiconductor memory used in the main storage unit of a computer or as a large-capacity working memory of other electronic devices.

4 Resistive Analog Neuro Device: Electronic devices capable of continuously changing resistance

5 Nonvolatile Resistive Random Access memory: Random access Memory that uses nonvolatile resistive memory elements

6 HVM: High Volume Manufacturing

7 AR: Augmented Reality. Wearing smart glasses to link with the real world and obtain an augmented reality output based on information about objects in the real world.

Furthermore, we are also systematically recruiting and training human resources to utilize data science¹ 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. In addition to installing 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.

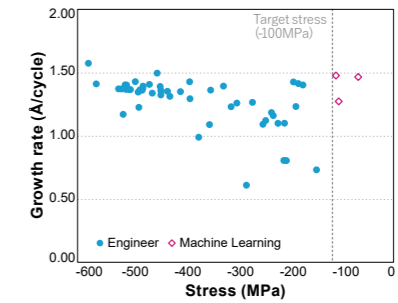
Based on the belief that utilizing digital technology can contribute to everything from accelerating the speed of development, improving productivity and quality and enhancing business efficiency to reforming workstyles, we are working on greater DX promotion.

Example Initiative

In the adjustment of film stress² (target value: -100 to 0 MPa) using plasma-enhanced atomic layer deposition (PE-ALD³), 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 and practices, engineers will be able to perform work with high added value.



TEL Digital Design Square



Comparison of process exploration results of a film stress (target value: -100 to 0 MPa) using a 300 mm plasma-enhanced atomic layer deposition (PE-ALD) system, conducted by a human engineer and machine learning respectively.

1 Data science: The approach of using data to extract new scientific and socially beneficial knowledge

2 Film stress: Stress caused by different rates of expansion, etc. between the thin film and substrate

3 PE-ALD: Plasma Enhanced Atomic Layer Deposition. Atomic layer deposition (ALD) is a thin-film deposition technology that uses continuous vapor-phase chemical reactions. PE-ALD is a method of applying plasma to activate a reaction on the substrate.

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 defective 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 Impressio™ and the Betelex™ FPD etch/ash systems, the Exceliner™ FPD coater/developer and the Elius™ inkjet printing system for manufacturing OLED displays. Impressio and Betelex use PICP™⁴, 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 Exceliner, equipped with our original Air Floating Coater, permits higher throughput while maintaining excellent film uniformity and saving chemical costs. The Elius 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 Elius 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 efficiently.



4 PICP™: Original plasma module developed by Tokyo Electron which produces extremely uniform high-density plasma on panel substrates

Customer Responsiveness



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.

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

Solutions that Create Value for Customers

Systems for Creating Value for Customers

The semiconductor market has been expanding significantly, driven by the acceleration of IoT, the global launch of commercial 5G services and the growth of device-to-device communication such as the automated driving of cars. In fiscal year 2021, faced with various regulations around the world as a consequence of the spread of COVID-19, including curfews, restrictions on travel and isolation measures, Tokyo Electron aggressively worked to maintain active communication throughout all the Group companies so that we could continue to develop our business while strengthening cooperation with our global business sites. We also expanded the use of remote tools and strived to further strengthen our systems to provide customers with seamless high-value-added solutions, not only in sales activities but also in service support.

Since 2018, we have worked to further strengthen our customer responsiveness through two divisions: our Account Sales Division, which leads to new technology development based on the needs of traditional customers of major semiconductor manufacturers for next-generation leading-edge technology such as memory, logic and foundry; and our Global Sales Division, which responds to the needs of more than 100 customers in Japan and overseas who deal in communication devices and image sensors for the IoT market as well as power devices and other products. By building stronger, close collaborative relationships with each business unit and, moreover, with overseas subsidiaries, our respective sales divisions quickly provide customers with the technology, support and solutions they need.

We accurately grasp the issues and requirements of our customers in their product development and manufacturing operations, and provide this as feedback to our main development and manufacturing sites in a timely manner. To this end, we are working to further improve the level of our engineers involved in equipment installation and maintenance, who act as a frontline link between our customers and us. We are also building a global organization and developing proactive, flexible operations in order to respond quickly and accurately to customer needs as markets change.

In addition, we are working to build globally unified systems and structures in order to further enhance and stabilize the quality of our service support activities. The Global Service Committee, a regular gathering of service leaders from relevant domestic departments and overseas subsidiaries, enhances information sharing and in-house coordination related to improving the technical skills and interpersonal skills of our more than 4,000 field engineers worldwide, the localization of startups and improving work efficiency using the work-time management system. At our Total Support Centers (TSCs¹), we operate our TELeMetrics™² remote maintenance service, and provide customers with high-value-added services by utilizing our wealth of knowledge and range of tools to propose customized solutions for the various challenges they face.



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 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.

¹ TSC: Total Support Center. Refer to p. 23
² TELeMetrics™: Refer to p. 24

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 (3PL³), 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.



1 CPU: Central Processing Unit. A typical component of a computer, alongside memory and hard disks.

2 VR: Virtual Reality. Technology that creates a virtual world resembling reality in a computer.

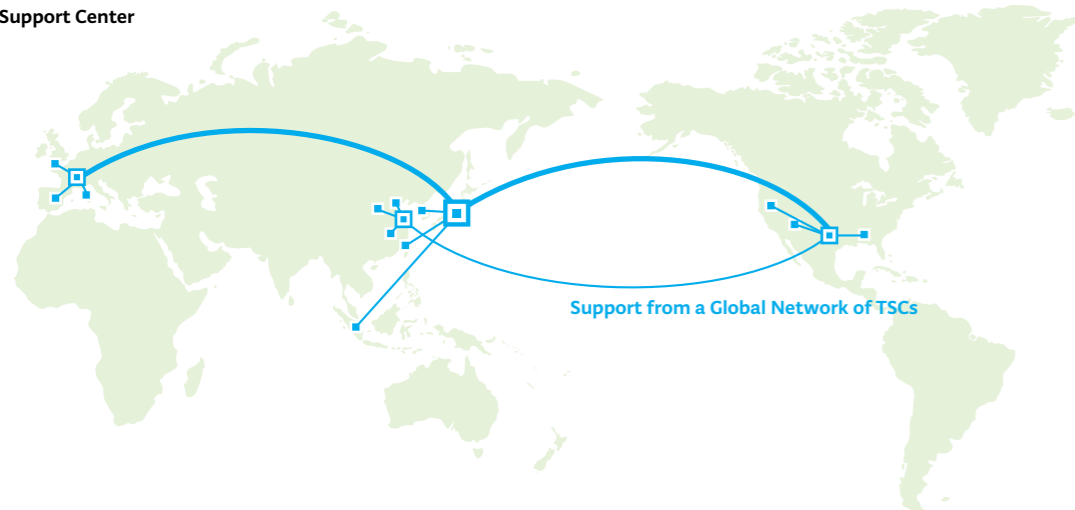
3 3PL: Third-Party Logistics. Arrangement whereby not only physical distribution but also warehouse operations are outsourced as a package.

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.

Total Support Center

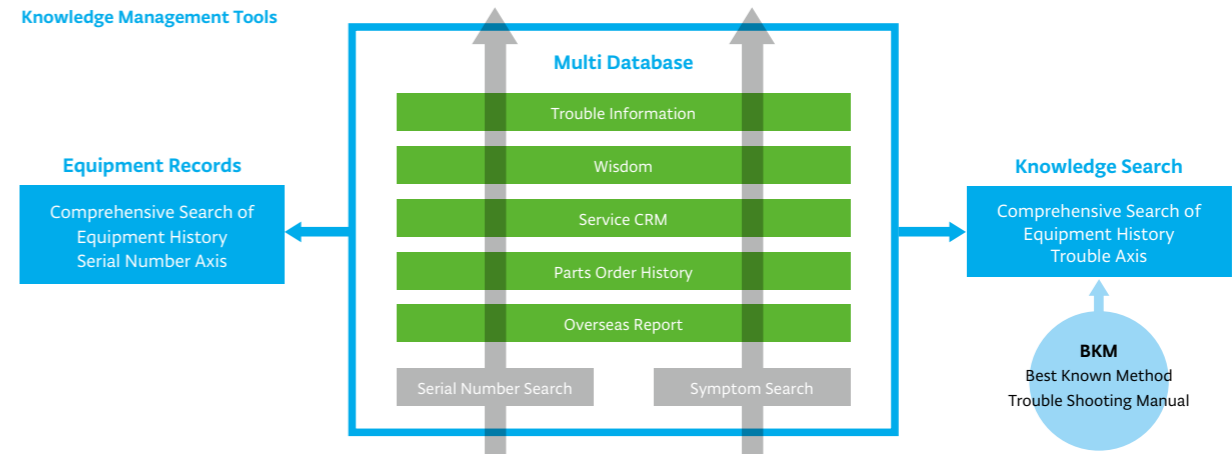


Knowledge Management

We promote knowledge management¹ 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 CRM² 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 Platform³, we will strive to further improve our customer responsiveness.

Knowledge Management Tools



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 glasses⁴ system, including information protection, restricted image transmission and phone translation.

Unique Features Added by Tokyo Electron

Information Protection Security feature for protecting information in case of loss or theft 	Restricted Image Transmission Information security feature whereby only necessary images are sent 	Phone Translation Feature that converts voice to text and displays a translation (multilingual support) 	Dangerous Area Function Function that warns the wearer when approaching a preset dangerous area
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Using smart glasses (image)

1 Knowledge Management: Management approach to promote internal company sharing of tacit knowledge held by individuals to encourage innovation and to improve overall productivity

2 Service CRM: Service Customer Relationship Management

3 One Platform: An initiative to manage information using a standardized database and system. Refer to Continuous Improvement of Business Operations on p. 28.

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

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 Transformation¹.

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 languages² 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 any customers to whom we deliver products that involve the use of hazardous chemicals or high voltage electricity.



TEL Safety and Environmental Guidelines

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 Training³ 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 design⁴ 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 S2⁵ and CE-Marking⁶. Additionally, we work with overseas subsidiaries to take appropriate measures to comply with the laws and regulations of each country and region.

¹ Digital Transformation: Refer to p. 19

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

³ Remote Training: A training course, although remote, taken by trainees using actual equipment while interacting with the instructor in real time

⁴ Safe equipment design: A design concept that eliminates the cause of the machine's harm to humans through the safety design of the machine

⁵ SEMI S2: This is a set of environmental, health and safety guidelines for semiconductor production equipment. It is used mainly by the leading manufacturers of semiconductor equipment in the United States and Europe, not only for semiconductors but also as safe procurement guidelines for electric and electronic device manufacturing equipment around the world.

⁶ CE marking: When exporting into the European Union, CE marking defines rules for displaying a CE mark as proof that the equipment is safe and complies with EU-defined rules (Directives).

Improvement of Customer Satisfaction

Customer Satisfaction Survey

We conduct a Customer Satisfaction Survey (TEL CS Survey) every year with the goal of making continual improvements based on customer feedback. The survey started in fiscal year 2004, aimed at just a limited number of divisions. It was expanded to include all semiconductor production equipment divisions in fiscal year 2014, and later the flat panel display production equipment division and overseas subsidiaries in fiscal year 2016, and currently, it is implemented company-wide as the Customer Satisfaction Survey Program (CSSP).

Under the CSSP, we survey customers once a year, at the same time each year, and ask specific questions that will lead to improvements on a practical level. Information obtained from the survey is analyzed by business unit (product), account (customer) and function (software, development, etc.), and the results of this are shared with relevant divisions, such as sales, equipment/plants and service, to implement actions for improvement. Improvements are also made continuously to all aspects of the survey method, including the questions asked, the analytical methods used, and the overall operation of the survey activities.

In the TEL CS Survey for fiscal year 2021, responses were received from approximately 1,400 individual customers (70.2% of all customers), and 96.7% of all survey items received a score of 3 points or higher (Very Satisfied or Satisfied¹), which is our annual CSR goal. This marked an improvement of 3.4 percentage points from fiscal year 2020. When we receive an evaluation of 1 point (Very Dissatisfied), we respond to the customer as quickly as possible as part of a Shift Left approach to implementing early-stage improvements throughout the survey process. Going forward, we will continue to aim for 3 points or higher for 100% of the questions asked, and the entire company will work as one to implement customer-driven improvements.

Improvement Example

At a business unit that handles one of our product lines, the results for fiscal year 2018 fell below a score of 3 points in all three divisions (sales, equipment/plants and service), so we have been working on various improvements. Based on the results of the TEL CS Survey, the Management Council immediately reviewed the results and formulated KPIs², and has since monitored the situation every quarter. The following improvement measures have been implemented for issues identified for each customer in past survey results.

- Explain our strategies to customers to gain their understanding
- Improve the frequency of customer visits
- Form an internal task force to make continual improvements for equipment-related issues
- Promote direct communication between customers and our engineers
- Clarify ownership of each issue at a meeting to address issues, etc.

By going through the PDCA cycle for these improvement measures, we were able to achieve a target score of 3 points or higher in the sales, equipment/plants and service divisions in the survey for fiscal year 2021. As a result, these improvements have led to stronger products and we were able to confirm that overall customer satisfaction for our company has improved.



¹ On a four-point scale, 3 points or higher represents "Very Satisfied" or "Satisfied"

² KPI: Key performance indicator. An evaluation indicator for managing the progress of improvements

Higher Productivity

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

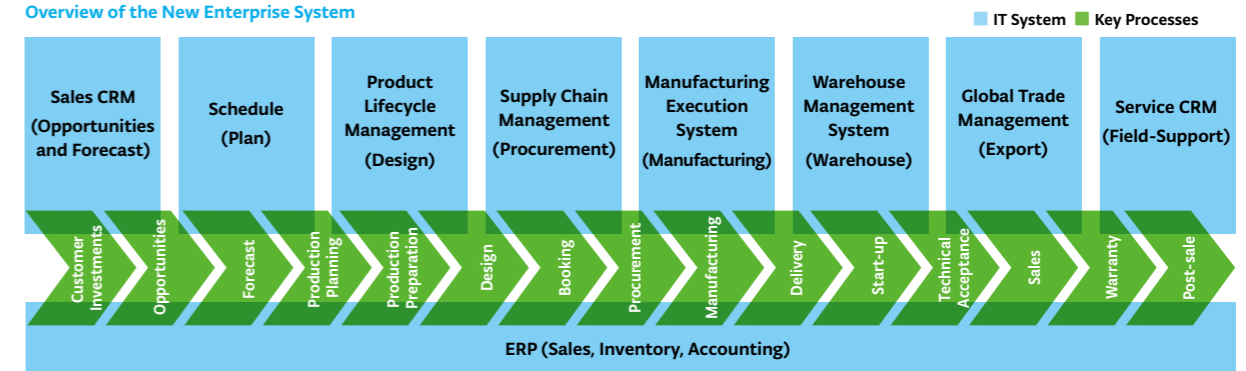
Promotion of Improved Productivity

Continuous Improvement of Business Operations

Tokyo Electron is currently introducing a new enterprise system (ERP¹) 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 transformation²; 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.

Overview of the New Enterprise System



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 First³", 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.

¹ ERP: Enterprise resource planning. A system that integrates the core business operations of an enterprise, such as accounting, personnel, production, logistics and sales, for better efficiency and centralized information.

² DX: Refer to p.19

³ Safety First: Company slogan that prioritizes the safety of every person connected with our business activities

⁴ BOM: Bill Of Materials. A list of parts that controls a product. It shows the hierarchical structure of the product and includes basic information of each part, including which parts are used to assemble the product.

⁵ Module Shipment: Equipment is shipped to customers in modules. The modules are assembled into equipment at the customer's site before inspection and adjustment. This helps reduce the lead time between manufacture and shipping.

⁶ Building of Flow Lines: Building of a system for securing materials and personnel and ensuring that work is carried out accurately and efficiently according to an expected schedule

⁷ MES: Manufacturing Execution System. A system for understanding and managing production processes and for providing instructions and support to workers.

Software Development Initiatives

Streamlining Product Development and Improving Added Value

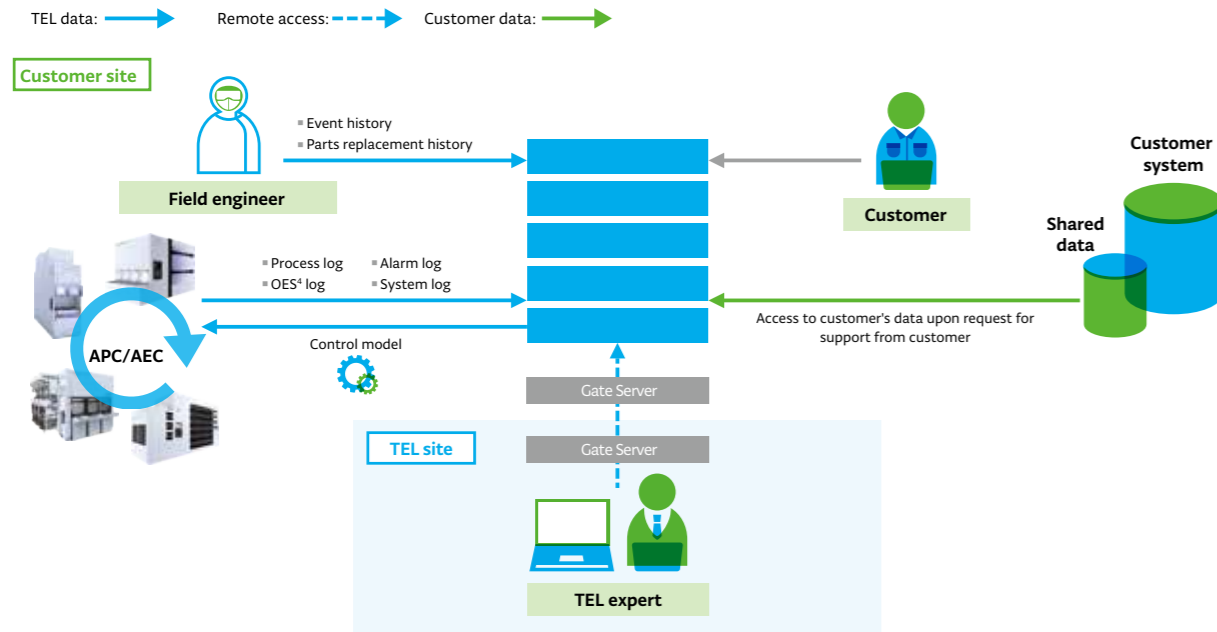
Since 1995, we have incorporated platform software developed in-house in our semiconductor production equipment and have worked on streamlining operations and improving product quality. By standardizing platform software, we have been able to reduce the hours spent on developing various types of duplicate functions for each type of equipment, leading to guaranteed real-time¹ control and enhancement of our response to new demands and technologies. Having adopted such concepts as object-oriented², 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 fabs³ 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.

Equipment Data Management Plan



1 Real-time: The property of time limitation until the completion of work

2 Object-oriented: A software engineering theory

3 Smart fab: A fab that utilizes digital data to realize continuous and progressive reform of operational processes and improvements in quality and productivity

4 OES: Optical Emission Spectroscopy

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 Platform¹ 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 (FMEA²) to prevent 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 Left³ (front-loading). We will continue to strive to provide high-quality and high-value-added products and services to our customers.

1 One Platform: A platform that makes it possible to easily view multiple different systems as seamless information sources in order to effectively and efficiently achieve traceability. Refer to p. 28

2 FMEA: Failure mode and effects analysis. Method to identify, prevent and mitigate risks in advance.

3 Shift Left: Refer to p. 17

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 9001:2015.

ISO 9001 Certified Plants and Offices

Company Name	Plant/Office Name	Certification Date
Tokyo Electron Technology Solutions	Fujii Office / Hosaka Office	September 1994
	Tohoku Office	December 1994
Tokyo Electron Kyushu	Koshi Office	March 1997
TEL Magnetic Solutions	—	November 2009
Tokyo Electron Korea	Balan Plant	September 2011
Tokyo Electron Miyagi	Taiwa Office	September 2012
TEL Manufacturing and Engineering of America	Chaska Office	March 2013
Tokyo Electron (Kunshan)	—	May 2018

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”.

■ Example Initiatives

We are focused on process improvement activities (PCS¹) 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 quality variability and maintenance/improvement of manufacturing processes that produce quality products, ultimately helping us provide products surpassing customer expectations. Since new technologies are being created daily and customer needs are constantly increasing, manufacturing processes that handle new important components need to be constantly reexamined and improved. Our products consist of tens of thousands of components, and the task of selecting important components that are especially relevant to customers' production and tallying and analyzing them regularly requires many hours. To optimize and streamline this task, we reexamine our operational flow, including the adoption of automation, and improve our systems by collecting information from customers, holding discussions among our manufacturing sites in Japan, and interviewing our suppliers. By continuously carrying out these activities that incorporate the concept of Shift Left, we are striving to improve our productivity further.

Ensuring Self-Process Assurance Systems and Promoting "Shift Left"

In order to improve the quality of products, it is important to prevent non-conformance 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.

Improving the precision of each process and reducing reworking costs in these activities for self-process assurance systems have enabled us to create high-value-added technologies and products in the upstream processes, leading to the promotion of the Shift Left concept. We are also promoting Product Lifecycle Management (PLM) by using self-process assurance systems to comprehensively manage and analyze all processes from product planning, development, design and production through to service, in an effort to facilitate the earlier release of products, enhance operational efficiency, improve quality and reduce costs.

Measures to Prevent Quality Problems from Occurring and Recurring

To comply with ISO and EN² 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 and production non-conformance and any occupational accidents.

In the event of an accident, we use our TIRS³ accident reporting system to distribute information to safety and quality personnel in each division, officers and management, including senior management. An accident investigation is also conducted immediately to identify the cause and plan preventive measures.

We use a proprietary system called QA-BOX⁴ to share information on equipment quality and any major non-conformance across all quality departments in accordance with our operating rules. Measures obtained from the results of an accident investigation are promptly applied, not only to the problem equipment but also to relevant equipment operated by other customers, and revisions are also made to the current design standards. Additionally, we work to prevent a recurrence of the accident by analyzing the factors that led to the human error and creating procedures that are easier to understand.

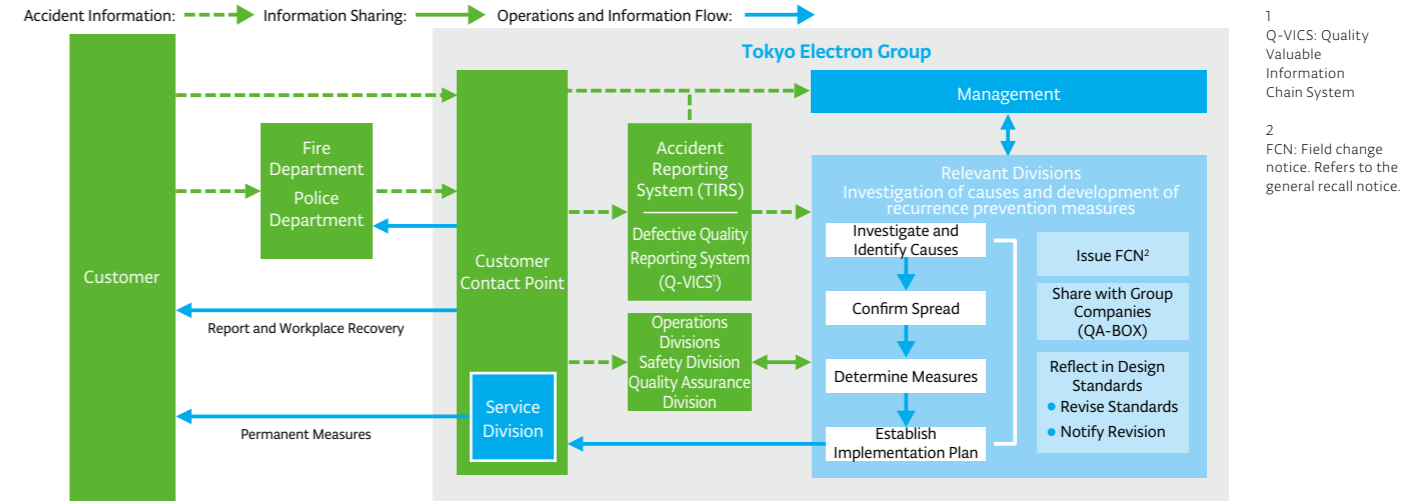
In operating "QA-BOX", we validate the commonalities among accidents and share the issues and countermeasures in regularly scheduled meetings attended by the Quality General Manager (GMs) responsible for various types of equipment. This allows us to examine various approaches to prevent similar non-conformances from occurring in any of our equipment. Furthermore, by managing the progress of the cases shared in QA-BOX and validating the effects of the measures, we ensure the implementation of effective measures and reduce the number of equipment-caused accidents.

1 PCS: Process Control System

2 EN: European Norm. Uniform standard for the European Union complementing parts of technical standards not stated in European Commission directives ("New Approach" directives).

3 TIRS: TEL Incident Report System

4 QA-BOX: Tool for the sharing and horizontal expansion of important quality-related information within our company



1 Q-VICS: Quality Valuable Information Chain System
2 FCN: Field change notice. Refers to the general recall notice.

Initiatives with Suppliers

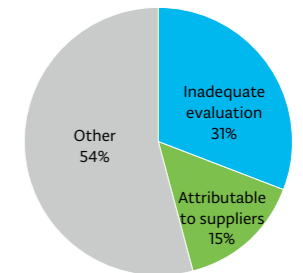
Continuously improving quality based on strong partnerships with suppliers is essential for providing high-quality products quickly to the market. Since fiscal year 2001, we have conducted our unique Supplier Total Quality Assessments (STQA) in an effort to ensure our suppliers properly understand the 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 (BUs) by cause, and found that 31% 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.

Percentage of Defects by Cause



3 DSP: Dry Surface Preparation

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 DSP³ 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 we are gradually seeing the results of these activities. ES BU and CT BU are also conducting their own quality improvement activities using the "single point of focus" approach in an effort to resolve important matters.

Together with our suppliers, we will continue striving to further improve the quality of our components and unit parts by continuously rolling out initiatives, including the "single point of focus" approach.

Management Foundation

Medium-term Goals






Build a Strong Management Foundation for Underpinning Our Business Activities

Tokyo Electron is endeavoring to build a strong and sound management foundation that supports the entire Group's business operations. Regarding problems of climate change and abnormal weather, which have increased in severity in recent years, endeavoring to preserve the global environment, we have been working hard to achieve the medium- and long-term environmental goals for our products, plants and offices in order to preserve the global environment along our entire value chain. In terms of practical initiatives for respecting human rights, based on our Human Rights Policy, which summarizes the entire Group's guiding principles on human rights, as well as implementing extensive education and awareness-raising efforts, we are expanding human rights due diligence (impact assessment and remediation) and grievance processes. Based on the recognition that people are the source of a company's growth, we deeply appreciate the new value created by individual employees exercising their capabilities, while respecting their individuality and values and encouraging work styles in sync with their respective lifestyles. To ensure that operational decision-making and supervisory functions are exercised sufficiently, we are striving to build a highly effective corporate governance system to realize medium- to long-term growth while considering corporate culture and business characteristics, and also strengthening risk management and thoroughly enforcing compliance. As for supply chains, we are promoting activities in compliance with global standards to achieve sustainable operations together with customers and suppliers.

Main activities

 <p>Corporate governance Corporate governance framework, Sustainability of a Board of Directors appropriate for resolution of management issues, Process for evaluating the effectiveness of the Board of Directors and management issues, etc.</p>	 <p>Human resources, Diversity and inclusion, TEL Values, Employee growth, Work-life balance</p>	 <p>Environment Environmental management system, Environmental risks and opportunities, TCFD, CO₂ emission amount in the entire value chain, Medium- and long-term environmental goals, Environmental initiatives for products, plants and offices</p>
 <p>Risk management Approach to risk management, Risk management system and initiatives, etc.</p>	 <p>Respect for human rights Approach to human rights, Human rights initiatives</p>	 <p>Supply chain Principles and system of supply chain, Supply chain initiatives</p>
 <p>Compliance Approach to compliance, Compliance system, etc.</p>	 <p>Health and safety Health and productivity, Safety management framework, Incident reporting system, Activities for safety</p>	

SDGs initiatives

 <p>3 GOOD HEALTH AND WELL-BEING</p>	 <p>8 DECENT WORK AND ECONOMIC GROWTH</p>	 <p>10 REDUCED INEQUALITIES</p>	<ul style="list-style-type: none"> ■ 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
 <p>13 CLIMATE ACTION</p>	 <p>16 PEACE, JUSTICE AND STRONG INSTITUTIONS</p>	 <p>17 PARTNERSHIPS FOR THE GOALS</p>	

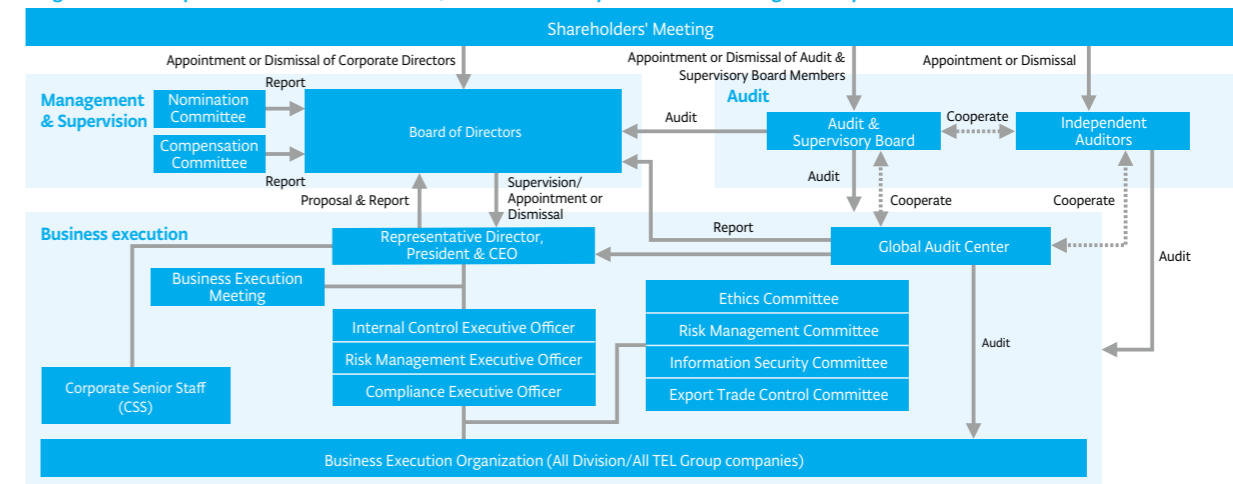
Corporate Governance

Corporate Governance Framework

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



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

	Composition			Number of Times Held
	Corporate Directors	Independent Outside Directors	Speaker/Chairperson	
Board of Directors	8	3	Corporate Director (Non-Executive Director)	12
Nomination Committee	3	1	Corporate Director	10
Compensation Committee	2	2	Independent Outside Director	7

Sustainability of a Board of Directors Appropriate for Resolution of Management Issues

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 assume management of operations to support our sustainable growth, the CEO and Representative Directors play the primary role in constantly anticipating successor candidates, primarily from among executive officers, evaluating their skills, character, dignity and insight from multiple perspectives in the course of performing day-to-day duties, and continually supporting the education of the candidates through assignment, training and other opportunities.

Skills Matrix

In view of our Corporate Philosophy that “We strive to contribute to the development of a dream-inspiring society through our leading-edge technologies and reliable service and support,” we are engaged in enhancing our governance structure and in sustainability-focused management in order to respond to changes in the global environment, achieve success in global competition, and realize sustainable growth and increased corporate value over the medium to long term to respond to the mandate from our stakeholders. We believe that our corporate directors and Audit & Supervisory Board members have the necessary qualifications to realize these initiatives. Described in detail below, all of them have knowledge of global business, governance, sustainability and so on. In addition to this matrix of individual skills, we also disclose the overall diversity of our Board of Directors in an easy-to-understand format.

	Name	Expertise and Experience*					
		Corporate Management	Semiconductor/FPD	Manufacturing/Development	Sales/Marketing	Finance, Accounting/Engagement with Capital Markets	Legal Affairs/Risk Management
Corporate Directors	Tetsuo Tsuneishi	●	●		●	●	
	Toshiki Kawai	●	●	●	●		
	Sadao Sasaki	●	●	●	●		
	Yoshikazu Nunokawa		●	●	●	●	
	Tatsuya Nagakubo		●			●	●
	Kiyoshi Sunohara		●	●	●		
	Seisu Ikeda		●	●	●		
	Yoshinobu Mitano		●	●	●		
	Charles Ditmars Lake II	Outside	●	●		●	●
	Michio Sasaki	Outside	●		●	●	
	Makiko Eda	Outside	●	●		●	
Sachiko Ichikawa	Outside				●	●	
Audit & Supervisory Board Members	Yoshiteru Harada		●			●	●
	Kazushi Tahara	●	●	●	●		
	Kyosuke Wagai	Outside				●	●
	Masataka Hama	Outside	●			●	
	Ryota Miura	Outside					●

* The six categories of “expertise and experience” are defined as follows:
 * Corporate management: Having experience in managing an enterprise (experience serving as a representative director or chairperson/president)
 * Semiconductor/FPD: Having knowledge of semiconductor/FPD-related industries
 * Manufacturing/development: Having knowledge/experience in manufacturing and development at Tokyo Electron and other manufacturers
 * Sales/marketing: Having knowledge/experience in sales and marketing at Tokyo Electron and other manufacturers
 * Finance, accounting/engagement with capital markets: Having knowledge in financial accounting and M&A, or knowledge/experience in engagement with capital markets
 * Legal affairs/risk management: Having knowledge in legal affairs, compliance and risk management

Expertise and experience of Corporate Directors and Audit & Supervisory Board Members (Unit: persons)



Independence and diversity of Corporate Directors (Unit: persons)



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, management plans, 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 reports and explanations on the status of deliberations at the Business Execution Meeting to monitor whether decision making by executive management functions properly in relation to matters for which approval authority has been delegated to executive management. At Board of Directors meetings, independent outside directors and Audit & Supervisory Board members actively provide advice and ask questions regarding the matters and reports made by executive directors well versed in business. The combined perspectives of both parties have enabled the Board of Directors meetings to achieve an appropriate sense of productive tension and constructive discussions that are essential for business execution decisions and supervision.

To obtain appropriate advice and questions from 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 of particular importance, 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 dialogue with, independent outside directors and Audit & Supervisory Board members.

Policies for Allocation of Earnings

Our basic stance is for the appropriate allocation of company earnings to all stakeholders. Our dividend policy to shareholders is to link dividend payments to business performance on an ongoing basis and maintain a payout ratio of around 50% based on net income attributable to owners of the parent company. Furthermore, we also set the minimum annual dividend at 150 yen per share in light of the stable distribution of dividends. We effectively use internal capital reserves to raise corporate value through earnings growth by concentrating investment in high-growth areas and provide returns directly to shareholders by linking dividend payments to business performance. Furthermore, we flexibly consider implementing repurchases of treasury stocks as part of returning earnings to shareholders.

Establishment of the Director Compensation System

As our basic policies on executive compensation, we emphasize (1) levels and plans for compensation to secure highly competent management personnel with global competitiveness; (2) high linkage with business performance in the short term and medium- and long-term increase of corporate value aimed at sustainable growth; and (3) securement of transparency and fairness in the decision process of compensation and appropriateness of compensation. Compensation for inside directors consists of fixed basic compensation, annual performance-linked compensation and medium-term performance-linked compensation. Compensation for outside directors consists of fixed basic compensation and non-performance-linked (stock-based) compensation. Compensation for Audit & Supervisory Board members consists solely of fixed basic compensation in consideration of their role being primarily the audit and supervision of management.

In order to secure transparency and fairness in management and appropriateness of compensation, the Compensation Committee, which an independent outside director chairs, utilizes advice from an external expert, compares compensation levels with those of industry peers in Japan and overseas, and analyzes the latest trends and best practices in Japan and overseas (such as reflecting ESG in compensation). The committee then proposes to the Board of Directors a compensation policy for corporate directors, a compensation system that is globally competitive and the most appropriate for us, and individual compensation amounts for the representative directors.

Fixed Basic Compensation

Fixed basic compensation is determined in reference to the compensation standards of industry peers in Japan and overseas. For inside directors, it also depends on the scale of their responsibilities based on the job grade framework provided by the external specialist organization.

Annual Performance-linked Compensation

Annual performance-linked compensation consists of cash bonuses and stock compensation-based stock options at a ratio of approximately 1:1. The specific amounts paid and the numbers of stock options granted are determined based on the results of corporate business performance and individual performance evaluations for the relevant fiscal year. Net income attributable to owners of the parent and consolidated ROE are adopted as evaluation indicators for corporate business performance. Evaluation items for individual performance include the degree of contribution to short-term and medium-term management strategy targets (including ESG).

Medium-term Performance-linked Compensation

Medium-term performance-linked compensation is a performance share (stock-based) compensation to motivate recipients to contribute to improving medium-term business performance and raise awareness for enhancing corporate value by sharing the perspective of shareholders through the holding of shares. The number of shares issued to each corporate director varies according to the payout rate based on their respective responsibilities and level of performance goal achievement over the relevant three-year period. Consolidated operating margin and consolidated ROE have been adopted as indicators for measuring the levels of performance goal achievement which are linked to the Medium-term Management Plan.

Non-performance-linked (Stock-based) Compensation

Non-performance-linked stock-based compensation has been introduced for the purpose of making the compensation system for outside directors more consistent with their expected role of, in addition to supervising management, giving advice to management from the perspective of increasing corporate value over the medium to long term. Under this Stock-based compensation system, shares are granted after the expiration of the applicable period (three fiscal years), which is set each year.

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 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 corporate value over the medium to long term. 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 appropriately supplements the explanation through individual interviews and regularly reports opinions from investors to management so that feedback can be of use 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 the Shareholders' Meeting agenda, we continuously engage in dialogue on a wide range of topics, including the business environment, ESG and sustainability initiatives, and respond to business risks and opportunities, including social and environmental issues, in order to deepen mutual understanding. To encourage active discussion and facilitate smooth and efficient voting at Shareholders' Meetings, we send convocation notices at an early stage and also post the notice 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 with investors.

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 understanding and appropriately addressing the risks that it may face 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 departments responsible for each operation to identify a wide range of risks arising in business activities, such as compliance risk, human resource and labor risk, and business continuity risk. It then classifies risks with high impact and probability as our key risks. The body also formulates and executes measures to minimize these key risks, monitors the effect of said measures, as well as works to understand the status of risk control, and implements the PDCA cycle for risk management. In fiscal year 2021 we introduced CSA² 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.

¹ Enterprise risk management: Group-wide systems and processes related to risk management activities

² CSA: Control Self-Assessment. Internal risks and controls are evaluated and monitored by those who are actually performing the duties with the goal of building and maintaining an autonomous risk management system.

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 status of risk management as well as any potential and actual risks surrounding the Company in the future. Based on the results of the reviews, we have identified the following 13 risks as having potential to cause significant issues to our financial condition, operating results and cash flows, and are working to address them.

Item	Main Potential Risks	Main Risk Management Initiatives
1. Market Fluctuations	Rapid contraction of the semiconductor market could lead to overproduction or an increase in dead inventory. In addition, a rapid increase in demand could lead to an inability to supply customers with products in a timely manner resulting in lost opportunities	<ul style="list-style-type: none"> Periodically review market conditions and orders received at Board of Directors and other important meetings, and appropriately adjust capital investments, personnel/inventory planning and other aspects of business Account Sales Division and Global Sales Division to strengthen the sales framework and customer base by grasping investment trends of customers and responding to a wide range of customer needs
2. Geopolitics	Initiatives made by an individual country or region from such perspectives as industrial policy, national security or environmental policy in shifting to domestic production of semiconductor-related businesses, strengthening policies prioritizing domestically manufactured products or tightening of export controls and environmental laws and regulations could lead to restrictions on business activities	<ul style="list-style-type: none"> Carefully watch policy and diplomatic trends to understand moves to introduce regulations Communicate opinions to policy-making authorities such as through public comment, and anticipate the impact of different countries introducing policies and regulations, and consider countermeasures
3. Research and Development	Delays in the launch of new products or the mismatch of such products with customer needs could lead to a decline in the competitiveness of products	<ul style="list-style-type: none"> Establish the Corporate Innovation Division, and build a Group-wide development framework that integrates innovative technological development with the technologies of each development division Provide highly competitive next-generation products ahead of competitors through collaborating with research institutions and sharing a technology roadmap spanning multiple generations with leading-edge customers
4. Procurement, Production and Supply	Interruptions in production due to a natural disaster or delays in component procurement due to deterioration in the business conditions of a supplier or an increase in demand that exceeds the supplier's supply capacity could lead to delays in the supply of products to customers	<ul style="list-style-type: none"> Formulate business continuity plan, establish alternate production capabilities, develop multiple sources of important parts, seismically reinforce plants, etc. Build a system for the stable supply of products by sharing forecasts based on demand projections with suppliers to ensure the early procurement of parts and production leveling
5. Safety	Safety-related problems with the Company's products could lead to damages suffered by customers, liability for damages and a decline in credibility	<ul style="list-style-type: none"> Based on the "Safety First" approach, thoroughly implement safety design at the product development stage, promote safety training and establish a reporting system in the event of an accident
6. Quality	The occurrence of a product defect could lead to liability for damages, costs for countermeasures and a decline in credibility	<ul style="list-style-type: none"> Establish a quality assurance system and a world-class service system Resolve technical issues from the product development and design stage Investigate the cause of any defects and implement measures to prevent the same or similar defects from occurring Monitor the quality status of suppliers, conduct audits and provide support for improvement
7. Laws and Regulations	Violations of the laws and regulations of the countries and regions where the Company does business could lead to diminished public confidence in the Company, fines, liability for damages or restrictions on business activities	<ul style="list-style-type: none"> Monitor compliance activities at key sites in and outside Japan under the direction of the Chief Compliance Officer Have assessments conducted by external experts and report identified issues to the CEO, Board of Directors and Audit & Supervisory Board for swift and effective action
8. Intellectual Property Rights	The inability to obtain exclusive rights to proprietary technologies could lead to reduced product competitiveness. Furthermore, infringement of the intellectual property rights of third parties could lead to liability for damages	<ul style="list-style-type: none"> Advance the R&D strategy, business strategy and intellectual property strategy in an integrated manner to build an appropriate intellectual property portfolio
9. Information Security	Breaches of information or the suspension of services due to unauthorized access by cyberattack, natural disasters or other factors could lead to diminished public confidence in the Company or liability for damages	<ul style="list-style-type: none"> Establish an information security system that conforms to global standards by launching a dedicated security organization and having security assessments conducted by external experts Establish globally standardized rules and regulations for information management
10. Human Resources	The inability to recruit and retain necessary human resources on an ongoing basis or the inability to create an environment where people with diverse values and expertise can play an active role could lead to diminished product development capability or customer support quality	<ul style="list-style-type: none"> Make ongoing improvements to work environments and promote health and productivity management, including having top management share direction through regular employee meetings, establishing training plans for the next generation of human resources, visualizing career paths for employees and offering attractive remuneration and benefits
11. Environmental Issues	The inability to respond appropriately to each country's climate change policies, environmental laws and regulations, and customer needs could lead to additional related costs such as for developing new products or changing specifications, as well as to reduced product competitiveness and diminished public confidence in the Company	<ul style="list-style-type: none"> Set industry-leading medium- to long-term environmental goals² Reduce greenhouse gas emissions from product use. Reduce overall energy consumption and increase the ratio of renewable energy used at plants and offices Provide technologies that help reduce the power consumption of semiconductors
12. The Novel Coronavirus (COVID-19)	The spread of COVID-19 could slow the Company's business activities or lead to the deterioration of global economic conditions	<ul style="list-style-type: none"> Establish an Emergency Task Force headed by the CEO Restrict travel to high infection-risk countries and regions, maintain supply chains and thoroughly implement infection prevention measures at plants and offices
13. Other Risks	Business could be influenced by global and regional political conditions, economic conditions, financial and stock markets, foreign exchange fluctuations and other factors	<ul style="list-style-type: none"> Take necessary measures to counter such risks

¹ Safety First: Refer to p. 28

² Medium- to long-term environmental goals: Refer to p. 50

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

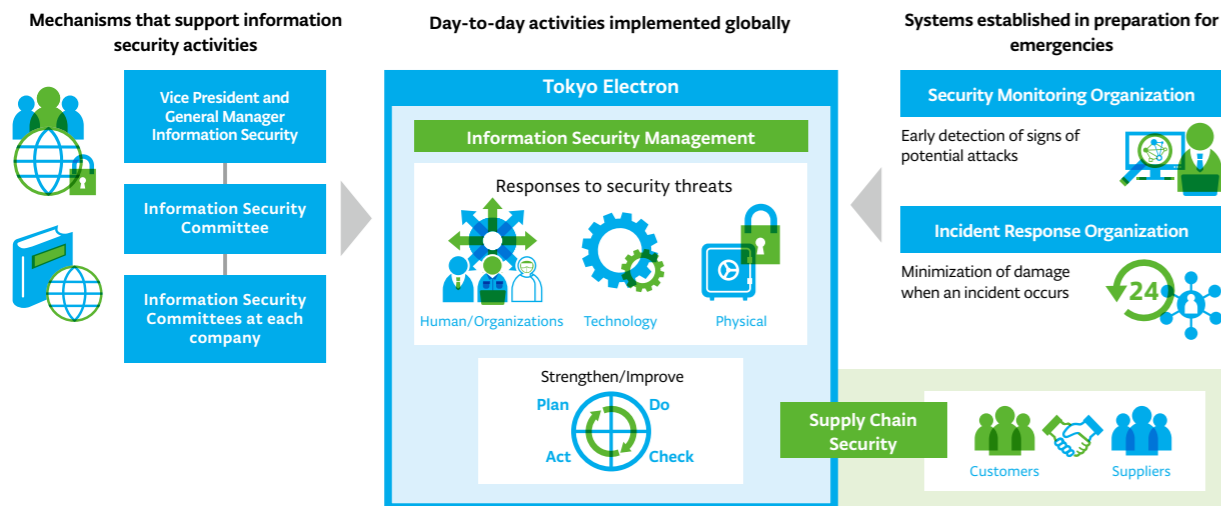
We respond to customer requests and monitor the status of security at suppliers so that we can securely use confidential information and customer information in our business activities without compromising utility.



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



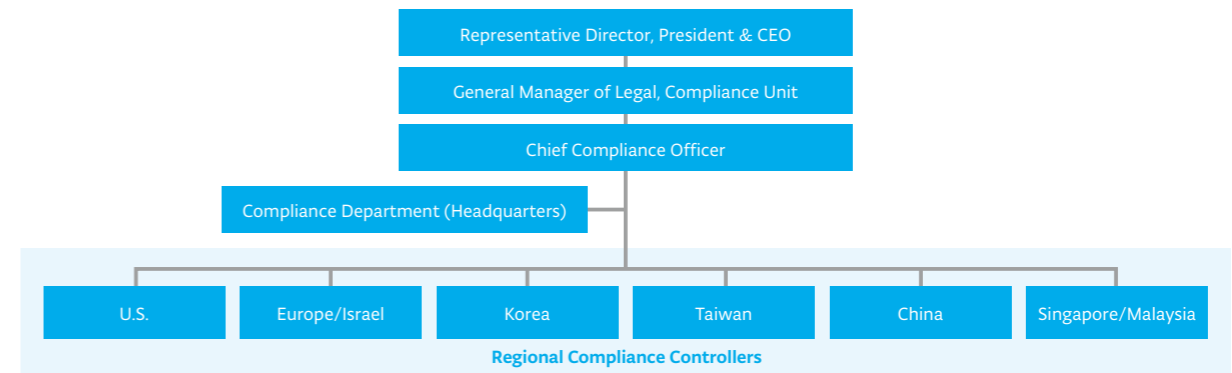
Compliance

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

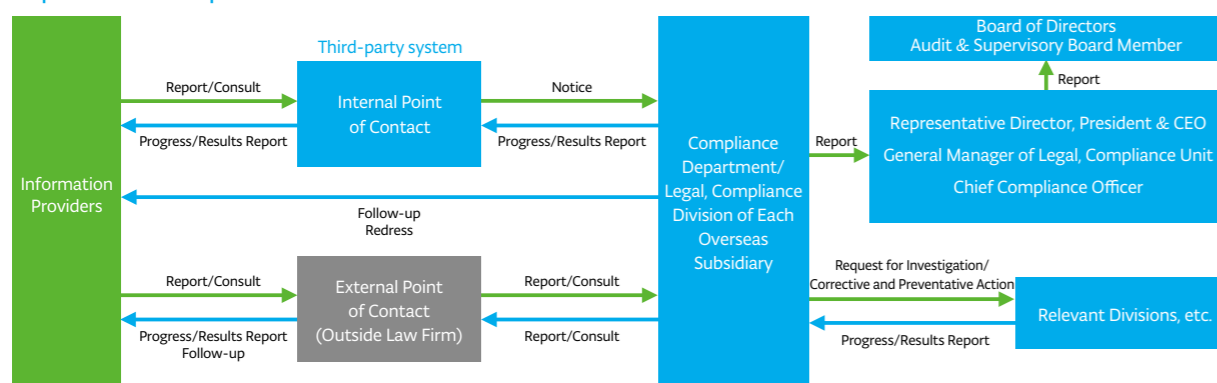
We conduct online and face-to-face training adapted to different levels for all employees¹. We will systematically expand our comprehensive training program and multilingual support, and reinforce efforts to foster compliance awareness and practice in the company.

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.

Response to Internal Reports



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 Employment², 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 compliance violations. The reports and requests for advice primarily related to harassment, but some concerned the improper reporting of attendance and breaches of internal procedures. As a result, we have conducted regular education programs for our employees to prevent harassment and have provided thorough follow-up with those concerned or involved. There were no reports or cases of non-compliance that could have had a serious impact on our business or on local communities.

¹ Training and seminar topics include basics of corporate ethics and compliance, anti-corruption, export compliance, insider trading prevention, the Act for Subcontracting and the prevention of harassment. Some training is limited to certain employees.

² A leniency system has been introduced whereby any disciplinary action may be reduced or exempted in the event the employee involved in a compliance violation has made a report or sought advice on his/her own volition.

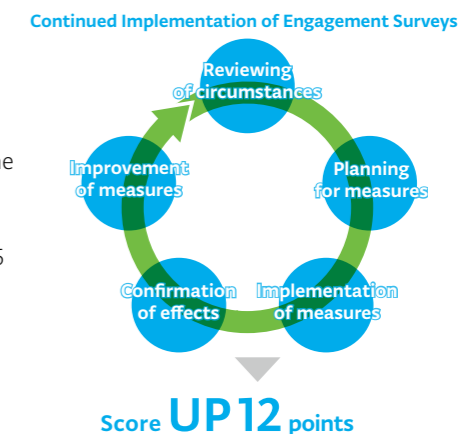
Human Resources

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 round-table 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.

TEL Values	
Pride	We take pride in providing high-value products and services.
Challenge	We accept the challenge of going beyond what others are doing in pursuing our goal of becoming number one globally.
Ownership	We will keep ownership in mind as we think things through, and engage in thorough implementation in order to achieve our goals.
Teamwork	We respect each other's individuality and we place a high priority on teamwork.
Awareness	We must have awareness and accept responsibility for our behavior as respectful members of society.

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.



Karuizawa Training Center

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.

* On-demand education: Education programs that allow employees to learn at their own convenience, anywhere, anytime

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.

Corporate Education System (TEL UNIVERSITY)

	Management	Executives	Leaders	Mid-level Employees	Junior Employees New Employees
Level-based Programs	Introductory programs (new graduates, mid-career recruits)				
	OJT* programs (new graduates, mid-career recruits)				
	Manager programs			Mid-level employee programs	Junior employee programs
	Leader programs				
Goal-based Programs	Compulsory web-based training				
	Business skills				
	Global communication				
	Employee life support				
	Technical programs (seminars, workshops)				

* OJT: On the job training

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 correct 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 urging 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 75.3% overseas, affected by COVID-19. We will continue to encourage our employees to take annual paid leave.



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 of a reduced working-hours program for childcare 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.

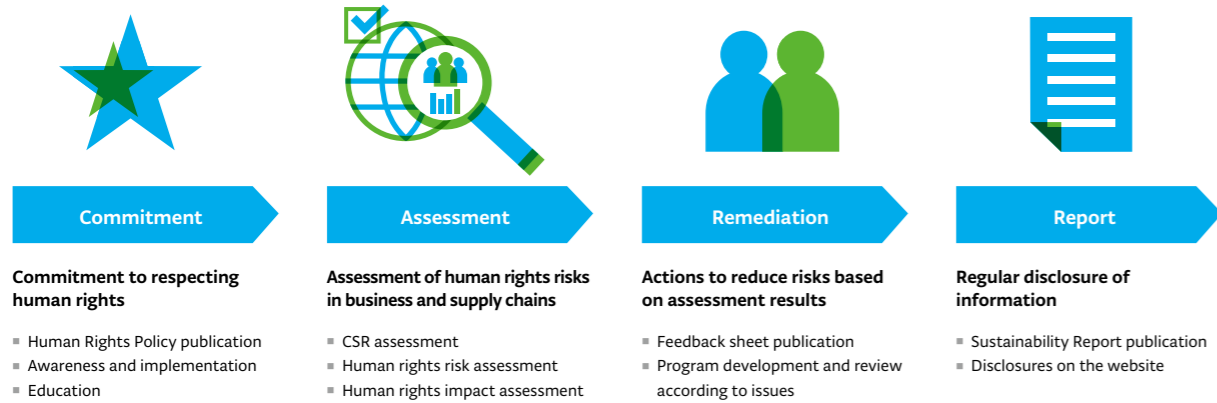
Respect for Human Rights

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 Policy¹, 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 Conduct².



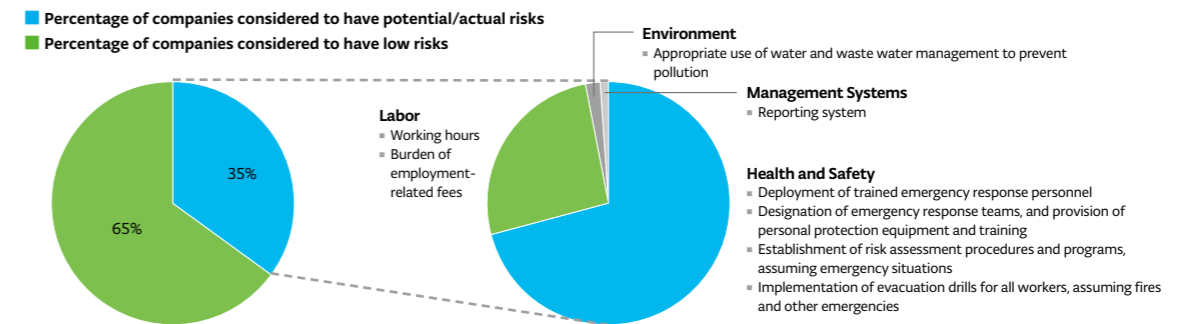
We ensure that our executives and employees, as well as suppliers, are fully aware of this content. Specifically, we publish the Human Rights Policy on our website to make it available to everyone inside and outside the Company, and also implement online human rights training targeting all of our executives 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 assessment³ 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.

Meanwhile, inside our company, we identified potential human rights risks in the areas of labor, and health and safety. To mitigate these risks, we are renewing our efforts to fully manage working hours and also taking steps to improve operational efficiency further.



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.

By continuing to conduct human rights due diligence going forward, we will assess and correct any human rights issues we identify in our business activities and further improve the grievance mechanisms we provide.

Health and Safety

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-care¹ seminars aimed at management, and, where necessary, holding liaison meetings with the health officers and health professionals at each Group company in Japan. Based on the collaborative health² concept, in cooperation with the Tokyo Electron Health Insurance Society, we are actively expanding data health³ initiatives, providing employees health guidance and effective prevention and 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 guidance⁴. Furthermore, again in fiscal year 2021, as in fiscal year 2020, the entire Group in Japan collectively received recognition as top 500 companies under the 2021 Certified Health & Productivity Management Outstanding Organizations Recognition Program⁵. We will continue to promote various initiatives at the global level to maintain and improve our employees' health.

¹ Human Rights Policy
www.tel.com/csr/employee/diversity/

² RBA Code of Conduct: The RBA establishes a set of standards for supply chains in the electronics industry for a safe labor environment to ensure that workers are treated with respect and dignity and that companies take responsibility for environmental impact in the manufacturing process.

³ CSR assessment: Refer to Supply Chain Management on p. 54

¹ Line-care: A workplace measure for mental health, in which managers and supervisors take a lead role in responding to requests by workers for advice, with the aim of improving the workplace environment

² Collaborative health: Situation where a company actively cooperates with an insurer, such as a health insurance society, to effectively and efficiently promote the health of its employees and their families

³ Data health: Refers to a more effective and efficient health care program that is implemented in line with the health status of insured persons, by utilizing and analyzing the health and medical information held electronically by the medical insurer

⁴ Specific health guidance: Health guidance provided for reducing the number of people with metabolic syndrome (visceral fat syndrome) or at risk of metabolic syndrome, and for the early detection and early treatment of lifestyle diseases and cancer, etc.

⁵ Certified Health & Productivity Management Outstanding Organizations Recognition Program: The program publicly recognizes particularly outstanding organizations that are practicing health-oriented business management, based on initiatives attuned to local health-related challenges and on health-promotion initiatives led by the Nippon Kenko Kaigi

Safety Management Framework

Based on a culture of “Safety First,” we carry out ongoing activities for safety promotion. In an effort to raise the overall level of safety and occupational health, we use a management system based on OHSMS¹ to manage safety and occupational health and also follow the PDCA cycle to reduce the potential risk of work-related incidents. Moreover, by sharing information of any issues at internal meetings, such as those of the EHS Council and the Manufacturing Company Presidents’ Council, we promote safety management as a company-wide initiative.

¹ Occupational Health and Safety Management System (OHSMS): A management system to improve the overall level of safety and occupational health

Incident Reporting System

If an incident occurs, the information is shared with related parties and persons in charge through the TEL Incident Report System (TIRS), newly developed in fiscal year 2019, creating a system that resolves issues and leads to the proposal of measures to prevent reoccurrence. Through the operation of TIRS, we strive to improve the accuracy of report content further.

Activities for Safety

On-site Safety Patrols

At each plant and office, monthly safety and health committee meetings are held to discuss measures for any workplace safety or employee health issues and to conduct safety patrols. We have also set up a system for autonomous problem-solving at manufacturing sites, with safety patrols by representatives from appropriate departments at least once per month.

Risk Assessment and Stop Work Authority

Before starting work at our manufacturing facilities, the work details and the risks are shared with all workers involved, and they each increase their awareness in an effort to prevent incidents. In addition, effort is also being directed to providing guidance to safety managers as well as making workers stop work and take corrective action in the event of an unforeseen incident while on the job.

Safety Education

In addition, we are implementing two education programs globally for the establishment of safe work environments.

■ **Basic Safety Education**

Our program on basic safety targeting all employees. This is provided as introductory training for new hires as well as refresher training every third year of employment.

■ **Advanced Safety Education**

Our program on advanced safety targets employees working on production lines and in cleanrooms. Participants are required to complete the course every year. For overseas transferees, the laws and regulations in their previous and future places of employment are compared, and additional safety education is added as necessary.

To eliminate incidents, we also provide online training and risk assessment training for employees in Japan and overseas. Also, to expand the concept of safe equipment design² to our design, manufacture, and service operations, we hold a semiannual safe equipment design seminar at our manufacturing sites in Japan, inviting an external guest to speak. Finally, we also promote our initiatives to prevent accidents, such as providing our suppliers and customers with safety information as circumstances demand.

As a result of having maintained a high priority on creating safe work environments, TCIR³ has been maintained at less than the company’s target of 0.5, with 0.27 in fiscal year 2021.



² Safe equipment design: Refer to p. 25

³ TCIR: Total Case Incident Rate. The number of workplace incidents per 200,000 work hours.

Environment

Environmental 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 issues. 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 environment management system, fiscal year 2021 was again free from environmental incidents, accidents, violations, and associated legal proceedings.

ISO 14001 Certified Plants and Offices

Company name	Plant/Office name	Certification date
Tokyo Electron	EHS Promotion Center (Fuchu Technology Center)	May 1998
Tokyo Electron Technology Solutions	Fujii Office/Hosaka Office/Tohoku Office	
Tokyo Electron Kyushu	Koshi Office/Ozu Office	
Tokyo Electron Miyagi	Taiwa Office	
Tokyo Electron (Kunshan)	—	March 2013
TEL Manufacturing and Engineering of America	Chaska Office	March 2013
	North Chelmsford Office	May 2018
Tokyo Electron Korea	TEL Technology Center Korea, Balan Plant	July 2014

Environmental Risks 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 (FPD) industry, by leveraging Tokyo Electron’s advanced technological prowess to create added value, we can contribute to the creation of semiconductor and FPD 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

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.

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.

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 1¹ and 2² CO₂ emissions, we are adopting renewable energy from a global perspective, including the implementation of measures at our key manufacturing sites in Japan with high emissions.

For Scope 3³ 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 to ensure that business operations can be maintained.

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 2020⁴. 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

Scenario	Type	Details
2°C Temperature Increase	Transition risks	<ul style="list-style-type: none"> Increased energy costs in line with taxes 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 2026 (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
4°C Temperature Increase	Physical risks	<ul style="list-style-type: none"> Impacts on us, our suppliers and customers from abnormal weather (net sales decrease as a result of supply chain disruptions, operation stoppages, production/shipping delays and other factors)
Common	Opportunities	<ul style="list-style-type: none"> Accelerated efforts to create new value, including innovation toward development of low-GHG products and services, and equipment and technologies that contribute toward the manufacture of low-power consumption devices Gaining superiority and business opportunities through proactive initiatives for climate change and adding value to the market Higher productivity by streamlining operations and reducing related environmental impacts Securing a competitive advantage by building resilience (responsiveness to climate change) into global operations, including working to adopt renewable energy, and improving corporate value through these initiatives

1 Scope 1: Direct greenhouse gas (GHG) emissions from use of fuel and gas we owned or controlled

2 Scope 2: Indirect GHG emissions from use of electricity, steam and heat we purchased

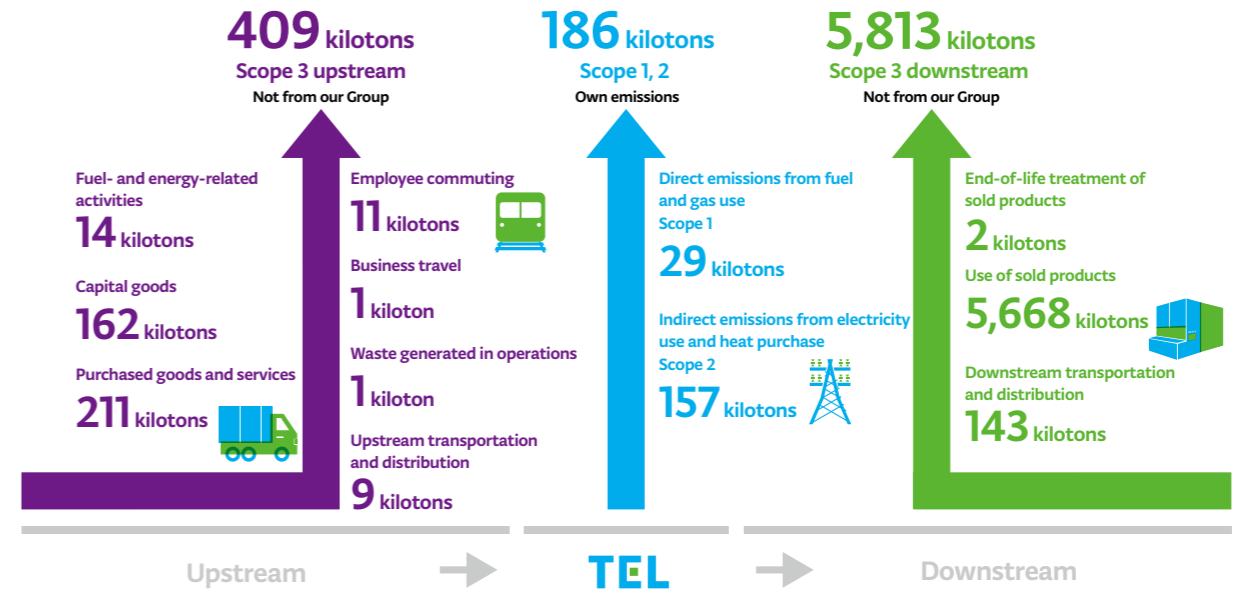
3 Scope 3: Emissions from corporate value chains (excluding scope 1 and 2 emissions), such as product transportation, employee business travel and major outsourced production processes *

Scope 3 is divided into upstream activities, which include emissions associated with purchased or procured products and services, and downstream activities, which include emissions associated with sold products and services.

4 Revision of medium-term environmental targets: Refer to p. 50

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 reducing this impact. Based on our environmental slogan "Technology for Eco Life," we aim to resolve environmental problems through leading technology and reliable services.



Our total CO₂ emissions of Scope 1 and Scope 2 is 186 kilotons, while Scope 3 accounts for a total of 6,222 kilotons, approximately 97% of the total. Of this, CO₂ emissions when using products is 5,668 kilotons, about 88% of the total. This is why we consider the development of products with low CO₂ emissions during operation to be important.

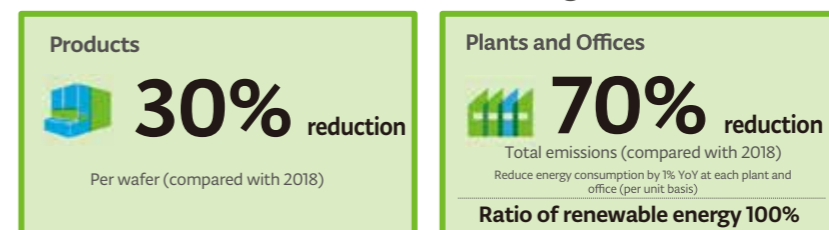
Medium- and Long-term Environmental Goals

In order to further strengthen our initiatives toward the environment in our products, plants and offices, the contents of the medium-term environmental goals for fiscal year 2031 were revised in December 2020. In the goals for products, the reference year for per-wafer CO₂ emissions was changed from fiscal year 2014 to fiscal year 2019. In addition, in the goals for plants and offices, the total CO₂ emissions reduction goal was changed from 20% reduction to 70% reduction while reaching a rate of 100% renewable energy usage. At present, we are working on new initiatives toward achieving these revised goals. Specifically, we are planning to introduce renewable energy at our plants and offices in Japan, the United States and China starting from fiscal year 2022. This will bring our use of renewable energy company-wide to over 50% while dropping our CO₂ emissions by 40%. In terms of products, we are moving ahead with understanding the amount of CO₂ emissions during the use of standard equipment and creating a roadmap. We are rolling out activities toward achieving our goals based on this.

We have set the following as a long-term goal to achieve by 2050. As a leading corporation in environmental management, Tokyo Electron works actively to conserve the global environment. We strive to contribute to the development of a dream-inspiring society by proactively promoting the reduction of environmental burden of both our products, facilities, and at the same time, providing evolutionary manufacturing technologies that effectively reduce the power consumption of electronic products. We are working on initiatives for this at a company-wide level.

Medium-term environmental goals for 2030 (Revised in December 2020)

CO₂ emissions reduction goals



Long-term goal (2050) As a leading corporation in environmental management, Tokyo Electron works actively to conserve the global environment. We strive to contribute to the development of a dream-inspiring society by proactively promoting the reduction of environmental burden of both our products, facilities, and at the same time, providing evolutionary manufacturing technologies that effectively reduce the power consumption of electronic products.

Product Initiatives

Products that 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 emission levels 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 Cellcia™ 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 footprint¹. In addition, we have brought in new functions to automatically switch off heaters and chillers inside our Precio™ series of wafer probers when idling.

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 REACH² is that we properly investigate and disclose information on the presence of any chemical substances in articles. We introduced the chemSHERPA³ format in fiscal year 2021 and collected information on chemical substances for concentrations in the parts per billion (ppb⁴). As an effort toward GHS⁵ requirements, we provide safety data sheets (SDS⁶) when selling chemical products. We also promote the local procurement 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 our 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, Hosaka 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 1% 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 per net sales 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 355 GWh (12% increase YoY), and the CO₂⁷ emitted by our energy sources was 169 kilotons (9% increase YoY). In addition, in fiscal year 2019, we revised 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 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 BKM¹ 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.

¹ BKM: Best Known Method

¹ Footprint: The overall area a piece of equipment takes up on a flat surface when seen from directly above

² EU REACH: An EU regulation pertaining to the Registration, Evaluation, Authorization, and restriction of Chemicals

³ chemSHERPA: A data entry support tool for appropriately managing information on chemical substances in products across an entire supply chain

⁴ ppb: parts per billion (1 × 10⁻⁹)

⁵ GHS: Globally Harmonized System of Classification and Labelling of Chemicals

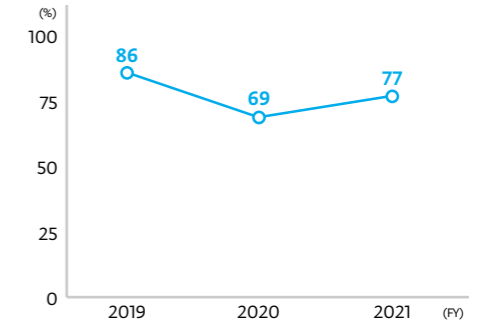
⁶ SDS: Safety Data Sheet (Safety Data Sheet refers to the document containing hazard information about chemical substances that is issued when a company transfers or provides chemical substances, products containing chemical substances, to another company)

⁷ The emission coefficient for power consumption in Japan in fiscal year 2021 uses the post-adjustment emission coefficient on a per-electricity supplier basis, while the emission coefficients for power consumption overseas uses the emission coefficients in Emissions Factors 2019 Edition issued by the International Energy Agency (IEA).

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 goals include reusing 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 1,195,000 m³ of wastewater was discharged in fiscal year 2021.

Percentage of plants and offices achieving water intensity target



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 system² to ensure proper waste management, we are engaged in maintaining an appropriate amount of parts inventory and in reusing 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 rate³ 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%.



² Electronic manifest system: A system for electronically tracking the flow of industrial waste instead of using paper-based manifests (i.e., paper forms for tracking industrial waste). The system uses a communications network of data processing centers, businesses that generate waste, and waste collection/disposal companies.

³ Recycling rate: (Recycled amount/Amount of waste generated) × 100

Management of Chemical Substances

We constantly monitor and manage our use and release of any chemical substances used in product development and manufacturing subject to the Japanese PRTR¹ 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.

¹ PRTR (Pollutant Release and Transfer Register): A framework for tracking, tabulating and disclosing quantitative data on chemical substances that may be hazardous to human health and the ecosystem, including the amounts used and discharged into the environment and the amounts transferred (as part of waste) off the plants and offices

Biodiversity

URL www.tel.com/csr/environment/office/

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

URL www.tel.com/csr/environment/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.

Logistics Initiatives

URL www.tel.com/csr/environment/product/

We have been promoting activities designed to reduce the environmental impact of our logistics. We have been implementing a modal shift² 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.

² Modal shift: Efforts to transform the means of transportation

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

URL www.tel.com/csr/environment/office/

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 a refresher 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 more closely with our environmental mandates, strengthen our ties with business partners, solidify our industry leadership, and pave the way for a sustainable future. We will utilize every management resource at our disposal to drive the major trends of digitalization and greening of society and actively endeavor to preserve the global environment throughout the supply chain.



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 valuing continuous communication with diverse suppliers, including materials suppliers that handle parts and raw materials, staffing suppliers that provide 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 for consideration and 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 materials¹, staffing² and logistics³ 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.

¹ Material suppliers: Surveys have been conducted since fiscal year 2014 for suppliers accounting for more than 80% of our procurement spend.

² Staffing suppliers: Surveys have been conducted since fiscal year 2019 on 100% of employment agencies and contracting companies (internal contractors).

³ Logistics suppliers: Surveys have been conducted since fiscal year 2019 on 100% of customs-related operators.

⁴ 3TG: Tantalum, tin, tungsten and gold

⁵ CMRT: Conflict Minerals Reporting Template. Survey format for reporting conflict materials, provided by the Responsible Minerals Initiative (RMI), which has established international guidelines on conflict minerals.

⁶ OECD: Organisation for Economic Co-operation and Development

⁷ RMAP: Responsible Minerals Assurance Process. A program promoted and led by the RMI for auditing smelters/refiners that do not use conflict minerals.

⁸ BCP assessment: A survey that has continuously been conducted to key suppliers accounting for more than 80% of our procurement spend since FY2013

Supply Chain CSR Process



Responsible Procurement of Minerals (Conflict Minerals)

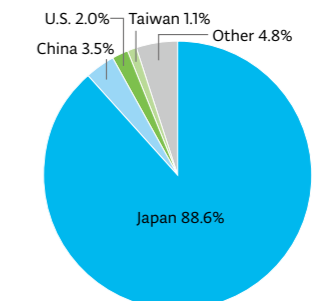
We regard taking action against conflict minerals (3TG⁴) obtained through illegal exploitation, including sources with human rights violations or poor working conditions, as an important part of corporate social responsibility. Our resolute goal is to eliminate the use of raw materials made from these conflict minerals, as well as any parts or components containing them. We conduct surveys on conflict materials using the CMRT⁵ and referring to the OECD⁶ 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 RMAP⁷ 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 five times.

In addition, we conduct BCP assessments⁸ 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%.

Percentage of supplier sites by country (FY2021)



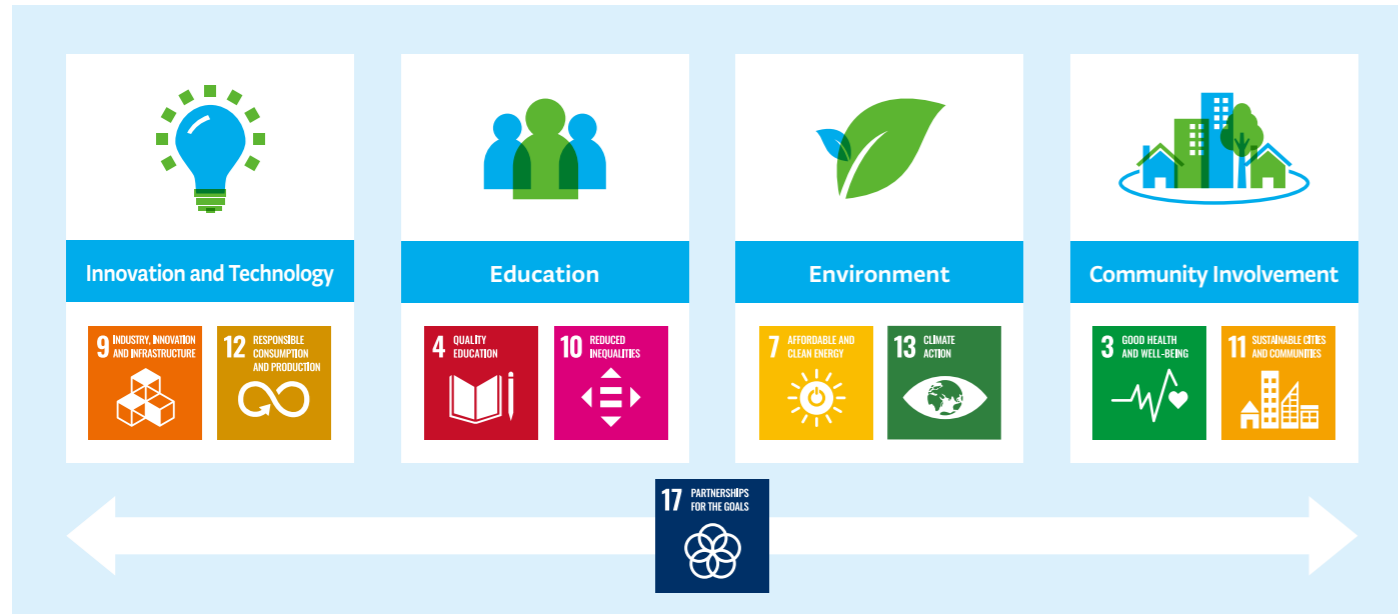
Expanding TEL FOR GOOD Activities

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.

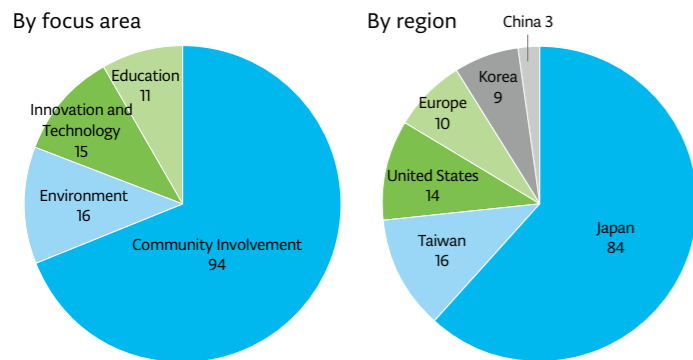
As a manufacturer of semiconductor and flat panel display production equipment, we have selected four focus areas. We place great importance on innovation and technology, focus on the education of human resources to support them and aim to preserve the global environment while, at the same time, ensuring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



Number of TEL FOR GOOD Activities (FY2021)



TEL FOR GOOD is the brand name that represents our social contribution activities. From fiscal year 2019, we are using it as a collective term for social contribution events and various programs, donations and volunteer activities sponsored by our group companies around the world.

Special Topics

Support to Help End the Global Pandemic

In support of activities to prevent the spread of COVID-19 and in the hopes of ending the pandemic and returning people's lives to normalcy as soon as possible, we donated 100 million yen to the International Federation of Red Cross and Red Crescent Societies (IFRC).



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.



* Photo credit: Hitoyoshi City

Initiatives around the World

Korea Semiconductor Scholarship

In support of the semiconductor scholarship program sponsored by the Korea Semiconductor Industry Association (KSIA), 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 2020, one science and engineering student majoring in semiconductors was selected and awarded a semiconductor scholarship of approximately 1 million yen. Starting in fiscal year 2021, 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 Science Intercollegiate

Science Intercollegiate 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 motivate students to undertake research and to foster original and richly creative scientists and engineers. The 10th Science Intercollegiate was held online from January 25 to February 28, 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.



U.S. Girl Day at the University of Texas at Austin

In collaboration with the Women in Engineering Program at the University of Texas at Austin, Tokyo Electron America is promoting the participation and advancement of women in engineering fields. Targeting girls up to junior high school, the program offers more than 150 STEM¹ activities, with corporate partners and volunteers acting as hosts to provide the students with opportunities to explore STEM themes. In fiscal year 2021, 10 Tokyo Electron America employees prepared for these activities and carried out a project to help the students search for common elements found at home using the AR-enhanced periodic table².



1 STEM: Science, Technology, Engineering and Mathematics
2 AR-enhanced periodic table: Our advertisement presenting a periodic table of elements with augmented reality (AR) features, which was granted a Guinness World Records title on June 30, 2017

Taiwan Hsinchu Supplementary Japanese Language School

In Hsinchu, where Tokyo Electron Taiwan's headquarters is located, supplementary Japanese lessons and presentations are held for the children of expatriate Japanese employees, targeting students of junior high school age or younger. In fiscal year 2021, 36 students participated in these activities. Volunteers handle everything in the supplementary school, from administration to the actual teaching, with two hours of Japanese language lessons offered every week. Tokyo Electron Taiwan contributes funds every year to support the school's activities, which offer the students a rare and precious opportunity to study Japanese.



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 smaller, elite corps of eight employees carried out various afforestation activities, including thinning and tree planting, as well as trail and bridge maintenance. To ensure their effective utilization, the thinned trees were used as teaching materials in elementary and junior high schools in Taiwa-cho, where they were made into tops and flutes.



Japan Tree Planting for Recharging Water Resources

Approximately 80% of Kumamoto Prefecture's water supply resources are underground. For Kumamoto City in particular, because 100% of the waterworks are supplied by groundwater, preservation of groundwater is an important activity for securing future water resources. Since 2006, Tokyo Electron Kyushu has been working on broadleaf afforestation suited to groundwater recharge in Nishihara Village, in the outer rim of southern Mount Aso, and in fiscal year 2021, carried out brush clearing and supplementary planting. So far, approximately 2,800 employees and family members have participated in these activities, planting a total of 4.2 ha with 13,810 trees.



Europe Virtual Running Event

Because of a lockdown due to COVID-19, 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.



Japan Support to Prevent the Spread of COVID-19

To help prevent the spread of COVID-19, Tokyo Electron Technology Solutions donated 10 million yen each to Yamanashi and Iwate Prefectures, where its plants and offices are located. The donated funds were utilized for the two prefectures' COVID-19-related operations, such as purchasing equipment that could quickly confirm PCR test results.



Social

The scope for calculating social 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 Kyushu Ltd., Tokyo Electron Miyagi Ltd., and Tokyo Electron FE Ltd.)
 Overseas: 21 consolidated subsidiaries (including Tokyo Electron America, Inc., Tokyo Electron Europe Ltd., Tokyo Electron Korea Ltd., Tokyo Electron Taiwan Ltd., Tokyo Electron (Shanghai) Ltd., and Tokyo Electron Singapore Pte. Ltd.)

Composition of Employees

		FY2017	FY2018	FY2019	FY2020	FY2021
Regular employees (Region/Group)	Number of regular employees	10,920	11,696	12,469	13,542	14,022
	Japan	6,967	7,268	7,526	7,806	7,921
	Rest of Asia	1,850	2,218	2,832	3,494	3,796
	Europe and Middle East	448	492	513	528	509
	North America	1,655	1,718	1,598	1,714	1,796

		FY2017	FY2018	FY2019	FY2020	FY2021
Employees (Employment type/Japan)	Number of employees	7,288	7,516	7,797	8,100	8,296
	Regular employees	6,967	7,268	7,526	7,806	7,921
	Men	6,079	6,292	6,479	6,681	6,722
	Women	888	976	1,047	1,125	1,199
	Non-regular employees	321	248	271	294	375
	Men	209	181	220	263	348
	Women	112	67	51	31	27

Recruitment/Employment (Japan)

		FY2017	FY2018	FY2019	FY2020	FY2021
New graduates hired	Number hired	72	167	199	281	253
	Under 30 yrs old	72	163	198	280	252
	Men	70	131	166	233	207
	Women	2	32	32	47	45
	30-49 yrs old	0	4	1	1	1
	Men	0	4	1	1	1
	Women	0	0	0	0	0
	50 and over yrs old	0	0	0	0	0
	Men	0	0	0	0	0
	Women	0	0	0	0	0
	Percentage of women	2.8	19.2	16.1	16.7	17.8
	Career-track recruits	Number hired	279	262	239	150
Under 30 yrs old		102	102	85	42	56
Men		85	85	67	35	49
Women		17	17	18	7	7
30-49 yrs old		170	156	145	96	123
Men		155	135	119	82	92
Women		15	21	26	14	31
50 and over yrs old		7	4	9	12	12
Men		6	3	5	10	11
Women		1	1	4	2	1
Percentage of women		11.8	14.9	20.1	15.3	20.4
Employees with disabilities		Percentage hired (TEL)	2.13	2.22	2.18	2.06
	Percentage hired (Group)	1.98	1.91	2.04	2.01	2.3
Female managers (Group) ^{1,2,3}	Number of people	42	20	22	23	26
	Percentage	1.6	1.8	2.0	2.0	2.2
Reemployment system	Number of users	125	156	201	242	313
	Men	123	155	196	235	305
	Women	2	1	5	7	8

¹ Percentage of female managers Calculation method: Number of female managers/Number of managers x 100
² Grade resetting through global human resources system since FY2018
³ As of March 31

		FY2017	FY2018	FY2019	FY2020	FY2021
Second career support system	Number of users	34	31	30	23	23
	Men	30	30	28	18	20
	Women	4	1	2	5	3
Percentage of regular employees who received regular performance and career evaluations		100.0	100.0	100.0	100.0	100.0

Employee Retention (Japan)

		FY2017	FY2018	FY2019	FY2020	FY2021
Employee retention	Retention after three years of joining TEL ¹	92.9	93.4	93.0	93.8	94.1
	Men	94.1	94.3	93.5	94.6	94.8
	Women	85.2	87.1	88.0	88.6	89.3
	Average service years	17 yrs. 1 mo.	17 yrs. 1 mo.	17 yrs. 2 mos.	17 yrs. 2 mos.	17 yrs. 4 mos.
	Men	17 yrs. 4 mos.	17 yrs. 4 mos.	17 yrs. 5 mos.	17 yrs. 5 mos.	17 yrs. 7 mos.
	Women	15 yrs. 5 mos.	15 yrs. 7 mos.	15 yrs. 8 mos.	15 yrs. 11 mos.	15 yrs. 10 mos.
Turnover ²	Employee turnover	102	103	108	82	87
	Men	82	82	88	54	75
	Women	20	21	20	28	12
	Turnover percentage	1.4	1.4	1.4	1.0	1.0

¹ Average in recent five years ² Turnover due to personal circumstances

Work-life Balance (Japan)

		FY2017	FY2018	FY2019	FY2020	FY2021
Annual paid leave	Take-up rate ³	64.1	64.3	67.2	72.6	62.5
	Number of those who took leave	586	639	605	901	688
Refreshment leave	Men	499	556	507	773	610
	Women	87	83	98	128	78
Paternity leave	Number of those who took leave	179	180	155	184	148
	Men	2	4	8	12	16
	Women (percentage who took leave)	42 (95.5)	37 (92.5)	48 (100.0)	34 (97.1)	25 (92.6)
Childcare leave	Number of those who returned to work after leave	44	44	43	48	54
	Men	2	6	6	8	15
	Women	42	38	37	40	39
	Percentage reinstated	93.6	93.6	93.5	94.1	96.4
Shorter working hour system	Retention rate	95.7	90.0	88.9	93.3	95.0
	Number of those who used	170	176	153	149	132
	Men	23	24	8	11	9
Leave to care for a sick/injured child	Women	147	152	145	138	123
	Number of those who took leave	464	455	517	625	510
	Men	263	281	334	428	353
Childcare support leave	Women	201	174	183	197	157
	Number of those who took leave	106	120	129	125	86
Extended nursing care leave	Men	16	19	26	26	29
	Women	90	101	103	99	57
	Number of those who took leave	2	3	5	2	2
Short nursing care leave	Men	1	2	2	2	0
	Women	1	1	3	0	2
Shorter working hour system for nursing care	Number of those who took leave	50	47	63	95	110
	Men	31	25	38	56	69
	Women	19	22	25	39	41
Shorter working hour system for nursing care	Number of those who used	0	0	2	2	0
	Men	0	0	0	1	0
Women	0	0	2	1	0	

³ Take-up rate of annual paid leave Calculation method: (Days of paid leave taken by employees*)/(Days of paid leave provided to employees*) x 100 * Incl. non-regular employees

Customers

		FY2017	FY2018	FY2019	FY2020	FY2021
Percentage of respondents who selected "Very Satisfied" or "Satisfied" in the customer satisfaction survey		67.6	59.4	84.4	93.3	96.7

Products/Innovation

	FY2017	FY2018	FY2019	FY2020	FY2021	
Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services	0	0	0	0	0	
Active issued patents (Region/Country)	Number of active issued patents	16,023	16,767	17,473	18,137	18,692
	Japan	4,984	5,091	5,304	5,348	5,484
	North America	4,224	4,321	4,415	4,606	4,822
	Europe	199	185	179	191	206
	Korea	2,672	2,864	3,076	3,223	3,363
	Taiwan	2,387	2,675	2,817	2,948	2,925
	China	1,557	1,631	1,682	1,821	1,892

	CY2015 ¹	CY2016 ¹	CY2017 ¹	CY2018 ¹	CY2019 ¹	
Global patent application rate	70.0	76.1	81.2	79.8	74.3	
Patent application success rate	Japan	66.5	71.5	82.9	83.1	84.9
	North America	72.3	78.0	85.1	85.5	87.3

¹ Calendar year when patents were filed/granted

Safety

	FY2017	FY2018	FY2019	FY2020	FY2021
Percentage of employees who received training on basic safety	100	100	100	100	100
Percentage of employees who received training on advanced safety	100	100	100	100	100
Lost time incident rate (LTIR)	0.46	0.77	0.40	0.51	0.63
Number of workplace injuries per 200,000 work hours (TCIR)	0.28	0.38	0.20	0.23	0.27

Procurement

	FY2017	FY2018	FY2019	FY2020	FY2021
Percentage of new important suppliers screened using social criteria	100	100	100	100	100
Rate of improvement after supply chain CSR assessment (including green procurement survey)	16.9	20.7	— ²	35.8	23.1
Rate of improvement after supply chain BCP assessment	32.3	21.2	19.4	16.0	20.3
Number of identified RMAP conformant smelters (rate of identification)	237 (100)	249 (100)	253 (100)	261 (100)	236 (100)

² Unable to compare with previous fiscal year due to comprehensive revisions, including the survey

Governance

	FY2017	FY2018	FY2019	FY2020	FY2021
Total number of critical incidents notified to Board of Directors	1	0	0	0	0
Total number of incidents subject to legal action on the basis of anti-competitive conduct, anti-trust activity, or monopolistic practices where the governance body's involvement was revealed	0	0	0	0	0
Number of executive officers who received training on anti-corruption ³	12	13	0	0	15
Total number (percentage) of directors who provided instructions on the body's policies and procedures in relation to anti-corruption ³	11 (100)	12 (100)	12 (100)	11 (100)	11 (100)
Total number (percentage) of directors who received training on anti-corruption ³	9 (81.8)	9 (75.0)	0 (0)	11 (100)	0 (0)
Payment to industry groups, etc. (thousand yen) ⁴	19,676	20,543	21,093	29,927	32,036
Payment to politically affiliated organizations (yen)	—	0	0	0	0
Average tenure of directors	—	8.04	7.36	4.84	6.09
Average rate of attendance for board meetings	—	99.46	98.24	99.39	98.96

³ Scope : Japan ⁴ Industry groups were reviewed from FY2017

Compliance

	FY2017	FY2018	FY2019	FY2020	FY2021
Education on TEL's Code of Ethics/pledge rate ⁵	—	—	—	—	98.8
Percentage of employees who have consented to the information security agreement	99.9	99.9	100.0	100.0	99.4
Significant fines and non-monetary sanctions for non-compliance with laws and regulations in the social and economic area	0	0	0	0	0

⁵ Scope: Global

Social Contribution

	FY2017	FY2018	FY2019	FY2020	FY2021	
Spending on social contribution (million yen) ⁶	242	238	281	250	244	
Cash donations breakdown	Charity donations (providing donations/relief supplies to charity organizations)	17	13	11	4	13
	Community investment (charitable expenses for long-term cause for community)	43	49	55	68	62
	Commercial initiatives (charitable expenses with anticipated effects on business growth)	40	38	34	28	25

⁶ Spending on social contribution activities excluding disaster relief contributions

Environment

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Overseas: 21 consolidated subsidiaries (including Tokyo Electron America, Inc., Tokyo Electron Europe Ltd., Tokyo Electron Korea Ltd., Tokyo Electron Taiwan Ltd., Tokyo Electron (Shanghai) Ltd., and Tokyo Electron Singapore Pte. Ltd.)

Greenhouse Gas Consumption/Emissions

denotes data with third-party assurance

	Scope	FY2017	FY2018	FY2019	FY2020	FY2021
CO ₂ from energy consumption	Emissions metric (sales) (t-CO ₂ /billion yen)	1.77	1.34	1.24	1.38	1.21
	Emissions (kt-CO ₂)	141	152	159	155	169
	Japan	110	119	127	127	138 <input checked="" type="checkbox"/>
	Overseas	31	33	32	28	31
CO ₂ by scope	Scope 1 ¹ emissions (kt-CO ₂)	8	9	9	11	12
	Japan, energy-derived	6	7	7	10	10 <input checked="" type="checkbox"/>
	Overseas, energy-derived	2	2	2	2	2
	Scope 2 ² emissions (kt-CO ₂)	133	143	150	144	157 <input checked="" type="checkbox"/>
Non-energy-derived greenhouse gas	Japan	104	112	120	118	128
	Overseas	29	31	30	26	29
	Scope 3 ³ emissions (kt-CO ₂)	4,028	5,855	6,467	5,874	6,222
	Emissions (kt-CO _{2e}) (Japan)	28	26	47	59	70
	HFCs	3	3	3	6	5
	PFCs	8	11	18	24	30
Non-energy-derived greenhouse gas	SF ₆	9	4	11	11	7
	Other	8	8	15	18	28
	Scope 1 ⁴ emissions (kt-CO _{2e})	9	8	15	16	17

1 Scope 1: Direct GHG emissions from use of fuel and gas owned or controlled by TEL
Calculation method: Emissions = Σ (fuel consumed × CO₂ emission factor)
Emission factor based on Japan's Act on Promotion of Global Warming Countermeasures

2 Scope 2: Indirect GHG emissions from use of electricity purchased by TEL
Calculation method: Emissions = Σ (purchased electricity × CO₂ emission factor)
Adjusted emission factors for the electrical power providers concerned based on Japan's Act on Promotion of Global Warming Countermeasures were used as the emission factor for Japan
Emission factors based on values from the Emissions Factors 2019 edition published by the International Energy Agency (IEA) were used as the emission factor for overseas electricity consumption

3 Scope 3: Emissions from corporate value chains (excluding scope 1 and 2 emissions), such as product transportation, employee business travel, and major outsourced production processes
The entire scope is divided into 15 categories, of which calculations were made for categories 1, 2, 3, 4, 5, 6, 7, 9, 11, and 12. Calculations for categories 8, 10, 13, 14, and 15 were not made as they are either not included in TEL's activities, or have already been included in other categories.

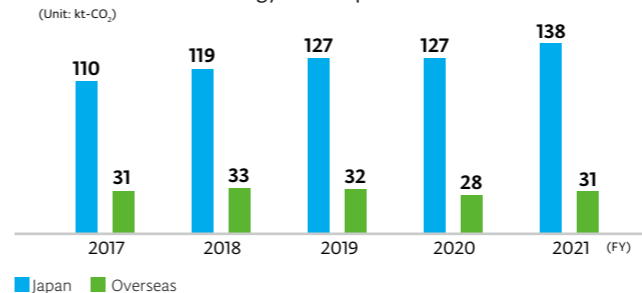
4 Scope 1: Non-energy-derived CO₂ and greenhouse gases other than CO₂
Calculation method: Emissions = Σ (consumption × emission per unit consumption – amount recovered and properly treated) × global warming factor
Global warming factor is based on Japan's Act on Promotion of Global Warming Countermeasures

Resource Consumption

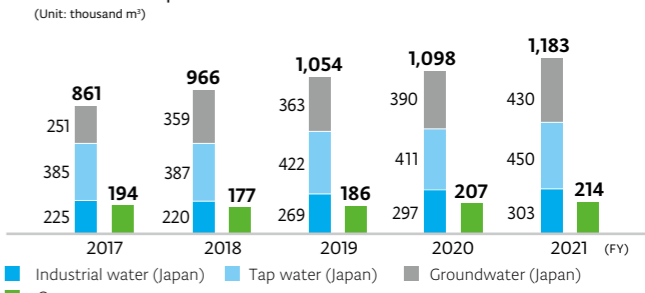
denotes data with third-party assurance

	Scope	FY2017	FY2018	FY2019	FY2020	FY2021
Water	Consumption (thousand m ³)	1,055	1,143	1,240	1,305	1,397
	Japan	861	966	1,054	1,098	1,183 <input checked="" type="checkbox"/>
	Groundwater	251	359	363	390	430
	Tap water	385	387	422	411	450
	Industrial water	225	220	269	297	303
Copier paper	Overseas	194	177	186	207	214
	Use (t) (Japan)	157	194	165	132	38

CO₂ Emissions from Energy Consumption



Water Consumption



Energy Consumption/Generation

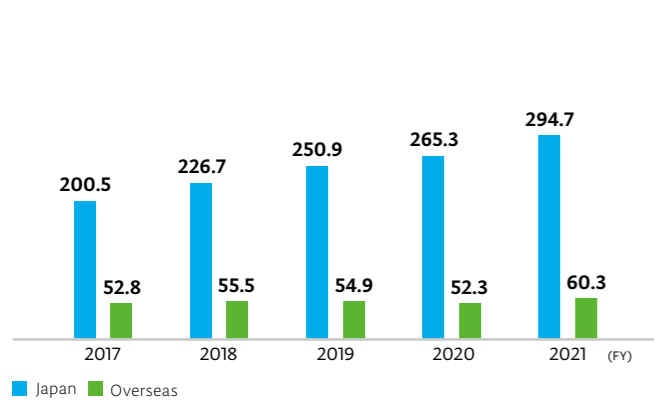
Scope		FY2017	FY2018	FY2019	FY2020	FY2021
Energy	Emissions metric (sales) (KL/billion yen)	0.84	0.66	0.63	0.75	0.68
	Consumption (crude oil equivalent) (kL)	67,457	75,033	80,918	84,931	94,640
	Japan	52,676	59,613	65,757	70,520	78,035
	Overseas	14,781	15,420	15,161	14,411	16,605
Electricity	Consumption (MWh)	253,300	282,274	305,795	317,614	354,961
	Japan	200,547	226,747	250,911	265,293	294,652
	Overseas	52,753	55,527	54,884	52,321	60,309
Gas	Consumption (crude oil equivalent) (kL)	2,877	3,083	2,991	3,565	3,820
	Japan	1,666	1,947	1,948	2,611	2,728
	Overseas	1,211	1,136	1,043	954	1,092
Fuel	Consumption (crude oil equivalent) (kL)	797	875	915	1,482	1,560
	Japan	796	874	915	1,481	1,560
	Overseas	1	1	0	1	0
Green power	Purchase (MWh)	3,334	3,458	3,834	3,334	4,980
	Japan	0	0	0	0	0
	Overseas	3,334	3,458	3,834	3,334	4,980
PV power generation system	Power generation (MWh)	4,436	4,414	4,392	3,804	4,068
	Japan	4,436	4,414	4,392	3,804	4,068
	Overseas	0	0	0	0	0
Power sales	Power sales (MWh)*	1,346	1,386	1,382	1,225	1,285
	Japan	1,346	1,386	1,382	1,225	1,285
	Overseas	0	0	0	0	0

* Heating, cooling and steam not sold

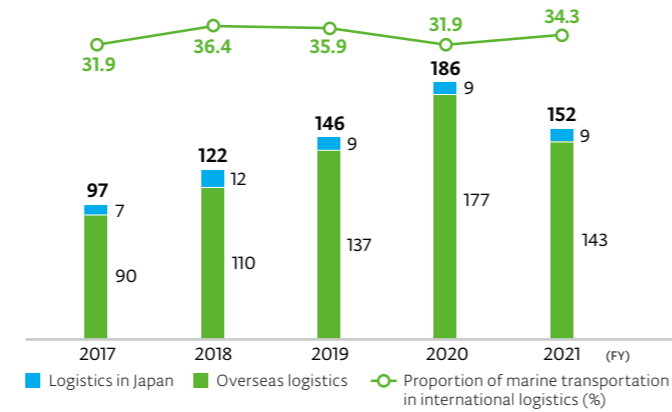
Environmental Impact of Logistics

Scope		FY2017	FY2018	FY2019	FY2020	FY2021
CO ₂	Emissions (kt-CO ₂)	97	122	146	186	152
	Japan	7	12	9	9	9
	Overseas	90	110	137	177	143
Proportion of marine transportation (international)		31.9	36.4	35.9	31.9	34.3

Electricity Consumption (Unit: Million kWh)



CO₂ Emissions from Logistics and the Proportion of Marine Transportation (Unit: kt-CO₂)



Amount of Waste Generated

Scope		FY2017	FY2018	FY2019	FY2020	FY2021
Waste	Amount generated (t)	12,318	14,435	14,960	13,989	14,997
	Japan	11,393	13,694	14,208	12,973	13,705
	Overseas	925	741	752	1,016	1,292
Specially controlled industrial waste	Emissions (t) (Japan)	3,683	4,904	6,619	5,911	6,718
	Recycled amount (t)	12,128	14,211	14,770	13,748	14,814
Recycling	Japan	11,281	13,561	14,092	12,831	13,587
	Overseas	847	650	678	917	1,227
Incinerated and landfill waste	Amount of waste (t)	190	224	190	241	183
	Japan	112	133	116	142	118
	Overseas	78	91	74	99	65
Water discharges	Water discharge volume (thousand m ³)	874	905	1,006	1,078	1,195
	Japan	709	759	850	900	1,006
	Overseas	165	146	156	178	189

Chemical Substances Consumption/Emissions (Japan)

Scope		FY2017	FY2018	FY2019	FY2020	FY2021
PRTR Class I designated chemical substances	Volume handled (t)	64	100	101	121	144
	Ferric chloride	33	82	84	98	106
	Hydrogen fluoride and its water-soluble salts	25	12	11	12	24
	Methylnaphthalene	5	5	5	10	13
	VOCs ¹	0.0	0.0	0.0	0.1	0.1
	Other	1	1	1	1	1
Amount transported (waste amount) (t)		59	95	96	111	131
	Consumption (t)	5	5	5	10	13
NOx	Emissions (t)	7.9	11.5	9.6	11.9	13.0
SOx	Emissions (t)	2.5	2.7	2.8	4.0	4.9

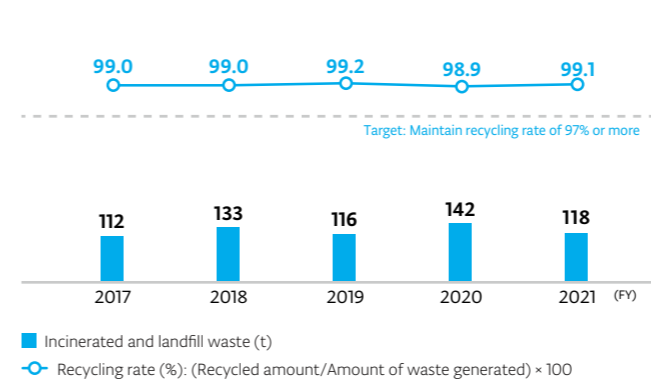
¹ VOCs: Volatile Organic Compounds

Other

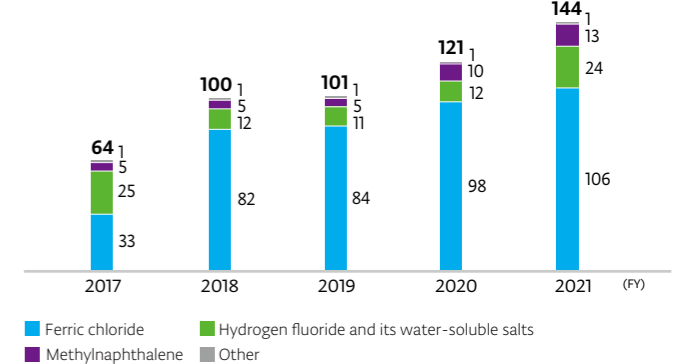
Scope		FY2017	FY2018	FY2019	FY2020	FY2021
ISO 14001	Number of certified offices	8	9	9	9	11
	Japan	5	5	5	5	5
Biodiversity	Number of ecosystem tours ²	18	22	17	18	18
	Number of ecosystem tour participants ²	396	718	595	368	52
Environmental laws and regulations	Number of breaches of environmental laws and regulations	0	0	0	0	0
	Amount of fines for breaches of laws and regulations	0	0	0	0	0
Total product shipment (t) ²		20,445	34,110	32,715	31,184	28,862

² Scope: Japan

Recycling Rate/Generation of Incinerated and Landfill Waste in Japan



Volume of PRTR Class I Designated Chemical Substances Handled in Japan (t)



Deloitte.

デロイト トーマツ


(TRANSLATION)

Independent Practitioner's Assurance Report

June 28, 2021

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

Masahiko Sugiyama
Representative Director
Deloitte Tohmatsu Sustainability Co., Ltd.
3-2-3, Marunouchi, 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  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 complied 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 3410, *Assurance Engagements on Greenhouse Gas Statements*, issued by the IAASB and the *Practical Guideline 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.

Member of
Deloitte Touche Tohmatsu Limited

Corporate Profile

Corporate Profile

Company name:

Tokyo Electron Limited

Address:

Akasaka Biz Tower
3-1 Akasaka 5-chome, Minato-ku, Tokyo
107-6325, Japan

Established:

November 11, 1963

Representative:

Toshiki Kawai
Representative Director,
President & CEO

Main business:

Semiconductor production equipment business,
flat panel display (FPD) production equipment business

Capital:

54,961 million yen

Number of employees:

14,668 (consolidated)
1,667 (non-consolidated)

Number of locations:

Japan: 7 companies at 26 locations
Outside Japan: 21 companies at 50 locations in 17
countries and regions
Worldwide total: 28 companies at 76 locations in 18
countries and regions (consolidated)

(as of April 1, 2021)

Financial Data

Earnings Release:

[URL www.tel.com/ir/library/report/](http://www.tel.com/ir/library/report/)

Securities Report:

[URL www.tel.co.jp/ir/library/fs/](http://www.tel.co.jp/ir/library/fs/)

Integrated Report/Annual Report:

[URL www.tel.com/ir/library/ar/](http://www.tel.com/ir/library/ar/)