

The background of the cover is a close-up photograph of cherry blossoms in full bloom. The flowers are a mix of light pink and white, with dark brown branches visible. The image is partially obscured by two overlapping rectangular blocks: a teal block on top and a green block on the bottom. The text is centered within the green block.

TOKYO ELECTRON  
SUSTAINABILITY  
REPORT 2017

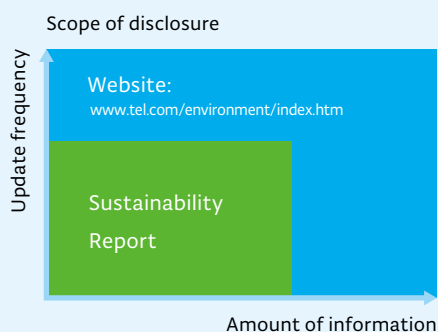
## Editorial policy

The purpose of this report is to communicate the roles and responsibilities of Tokyo Electron Limited (TEL) in promoting a sustainable society and specific activities toward achieving this goal.

In this year's report, we have made some improvements to the substance and structure of the content. Stakeholders can now get a better and broader understanding of our commitment to solve social issues through business operations as well as our efforts to enhance our medium- to long-term corporate value. In addition, we clearly explain the issues that are material for us and their connection with social issues, our business environment, our medium-term management plan, and risks and opportunities. We have also established annual goals to serve as indicators to evaluate our progress toward the medium-term goals of each material issue. To find out more, please visit our website.

**URL** [www.tel.com/environment/index.htm](http://www.tel.com/environment/index.htm)

We remain committed to disclosing information in a timely and transparent manner. Your candid feedback on this report is highly appreciated.



### Organizations covered

This report covers the entire TEL Group (36 consolidated companies), with some exceptions (indicated in the content). In April 2014, the status of Tokyo Electron Device Limited changed from being a consolidated subsidiary to an equity-method affiliate.

### Period covered

This report principally covers fiscal 2017 (April 1, 2016 to March 31, 2017), although some content covers fiscal 2018.

### Publication date

This report: June 2017 (Next report: scheduled for June 2018; previous report: July 2016)

### Reference guidelines

*G4 Sustainability Reporting Guidelines*, GRI (Global Reporting Initiative)

*Environmental Reporting Guidelines 2012*, Ministry of the Environment, Government of Japan

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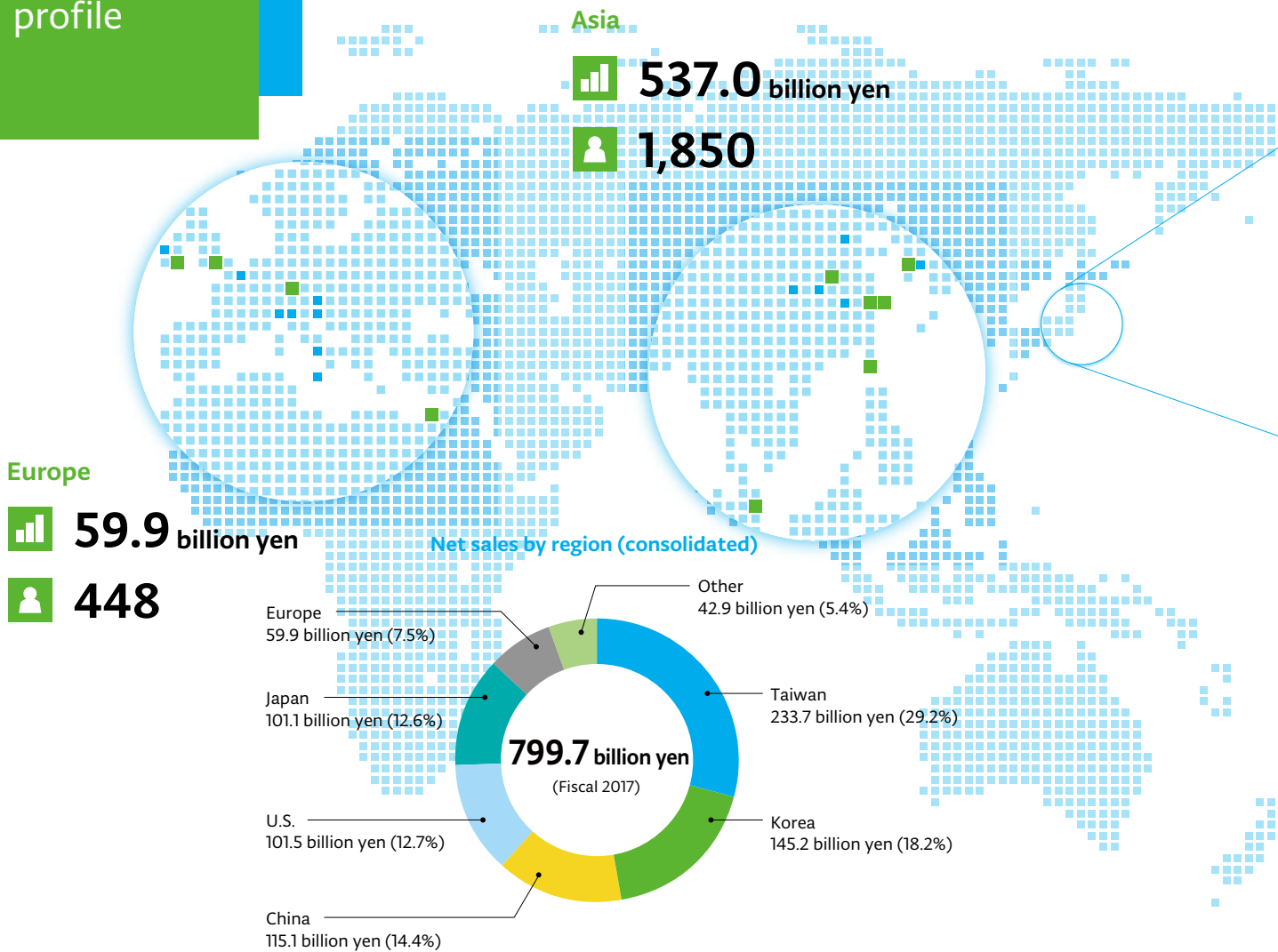
**URL** [www.tel.com/contactus/index.htm](http://www.tel.com/contactus/index.htm)

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## Corporate profile

# Business activities on the global



**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

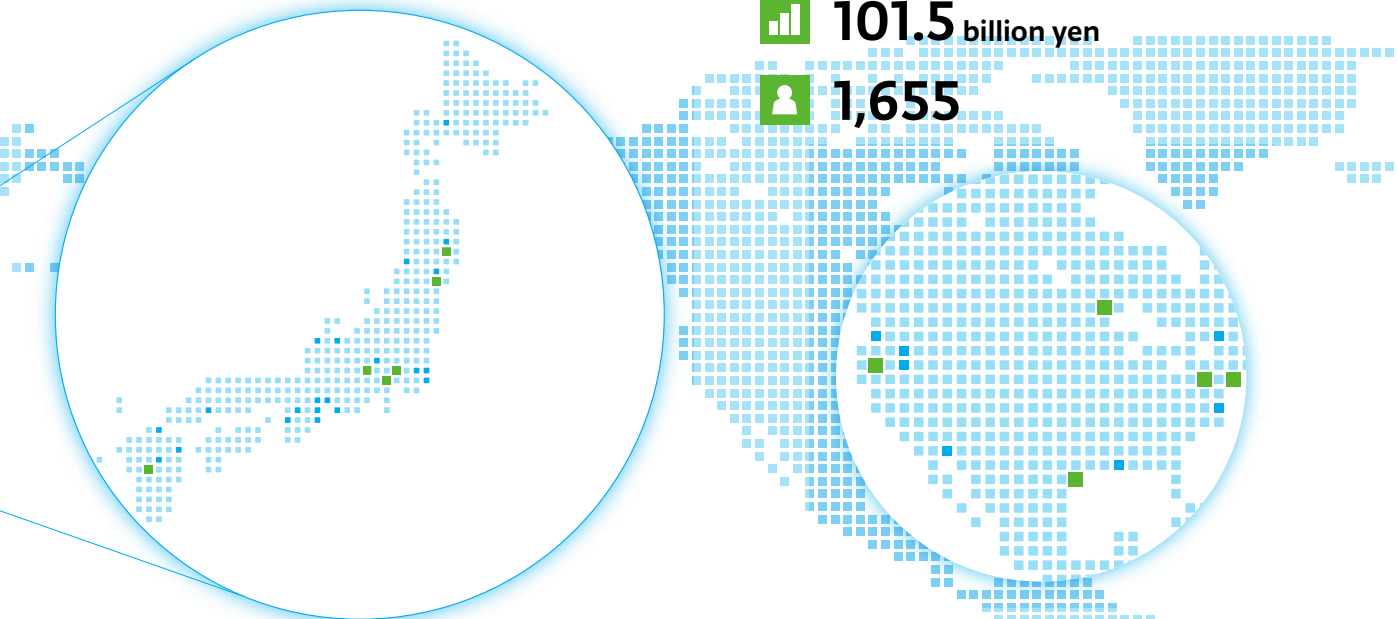
**Main business:** Semiconductor production equipment business,  
flat panel display (FPD) production equipment  
business

**Capital:** 54,961 million yen

**Number of employees:** 11,241 (consolidated)  
1,531 (non-consolidated)

**Number of locations:** Japan: 8 companies at 29 locations  
Outside Japan: 28 companies at 46 locations  
in 15 countries and regions  
Worldwide total: 36 companies at 75 locations  
in 16 countries and regions (as of March 31, 2017)

stage



U.S.

101.5 billion yen

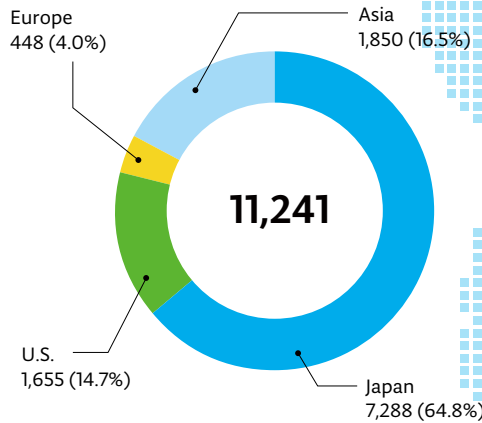
1,655

Japan

101.1 billion yen

7,288

Number of employees by region (consolidated)



- Sales by region
- Number of employees by region
- Head office
- Regional office, branch office, field service, sales site

Main products

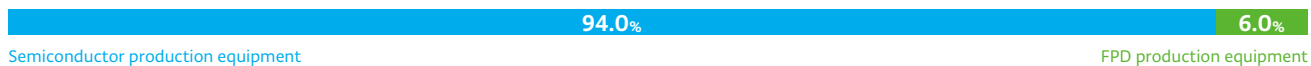
Semiconductor production equipment



FPD production equipment



Net sales by division (consolidated)





CEO's  
message

On behalf of Tokyo Electron, I would first like to express my sincere gratitude to all stakeholders for their continued support and patronage.

There are currently a variety of global issues that are becoming increasingly urgent, including climate change, the depletion of energy and resources, poverty and famine, human rights and labor, and education and health. In 2015, the United Nations (UN) adopted the Sustainable Development Goals (SDGs) as common global goals for maintaining and developing society for 2030. In November 2016, the Paris Agreement came into force as an international framework for dealing with global warming. The government and the private sector in both developed and developing countries are being called on to cooperate at a global level and contribute to resolving these issues.

On the social front, as we enter the age of the IoT (Internet of Things), with almost everything in society connected to networks, the volume of information being handled is becoming larger and larger. In addition, the use of semiconductors is becoming more and more widespread with applications that require high degrees of speed and reliability, such as automated driving, remote healthcare, DNA analysis in the medical and biotechnology fields, and applications based on artificial intelligence and other new technologies such as augmented reality (AR) and virtual reality (VR). Finally, with an increasing demand for higher resolution and lower power consumption in flat panel displays (FPD). Organic electroluminescent displays\* have been gaining attention to increase screen size and processing flexibility. Because of all this, semiconductors and FPDs are in a new growth phase, playing a key role in our social infrastructure, and fulfilling ever-increasing expectations for technological innovation.

Our Corporate Philosophy urges us to “contribute to the development of a dream-inspiring society through our leading-edge technologies and reliable service and support.” As a leading manufacturer of semiconductor and FPD production equipment, I believe our role is to improve our corporate value in the medium to long term by contributing to the resolution of social issues. To achieve this, we will further enhance product competitiveness, reinforce responsiveness to customers, and strengthen our earnings power through streamlined operations. In addition, we will build a solid management platform that supports further growth, focused on developing an open, honest, and invigorating work environment. These activities have been identified as material issues, and we are taking action to achieve related goals company-wide. Moreover, we became a signatory to the UN Global Compact in 2013 and began initiatives for SDGs in 2016, helping to bring our CSR operations in line with international frameworks.

Your continued support and encouragement is very much appreciated by all of us at Tokyo Electron.



**Toshiki Kawai**  
Representative Director, President & CEO  
Tokyo Electron Limited

\* Organic electroluminescent display: The phenomenon of light being emitted from specific organic compounds when voltage is applied.

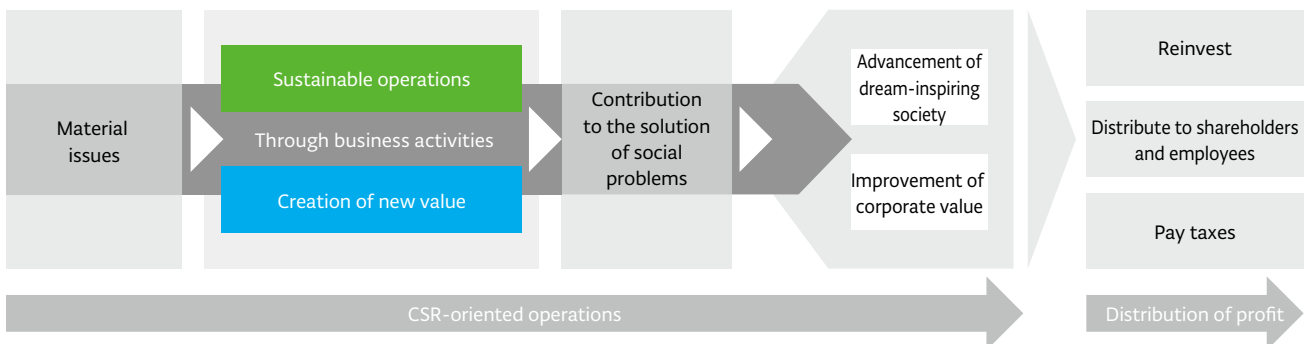
# CSR-oriented operations

## CSR policy

TEL considers CSR to be the embodiment of its Corporate Philosophy, which has been firmly upheld since its founding. 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.

### 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 promotion framework

TEL implements CSR activities on a global basis, including domestic and overseas affiliates, from a medium- to long-term perspective. To back up these CSR activities, we have established the following three bodies composed of members from top management to department representatives. The CSR Management Council is convened twice annually and functions as the Group's highest decision-making body for CSR-related issues. The council approves Group-wide policy and considers the most important CSR matters. Also assembling twice a year, the CSR Global Promotion Committee sets CSR targets and implements global projects. Furthermore, at the CSR Monthly Meeting, representatives from each division share information related to CSR activities as part of a responsive framework for promoting CSR initiatives across divisions.

Body	Participants	Function	Meeting frequency
CSR Management Council	<ul style="list-style-type: none"> <li>Chairman of the Board</li> <li>President and CEO</li> <li>Directors and general managers</li> </ul>	<ul style="list-style-type: none"> <li>Approve Group-wide CSR policy</li> <li>Discuss important CSR matters</li> </ul>	Twice annually
CSR Global Promotion Committee	<ul style="list-style-type: none"> <li>Chief CSR Promotion Director</li> <li>Heads of related departments</li> <li>CSR officers of affiliates and overseas companies</li> </ul>	<ul style="list-style-type: none"> <li>Set CSR targets</li> <li>Implement global projects</li> </ul>	Twice annually
CSR Monthly Meeting	<ul style="list-style-type: none"> <li>Person in charge of CSR at each division</li> </ul>	<ul style="list-style-type: none"> <li>Share information on CSR activities</li> <li>Discuss cross-division CSR initiatives</li> </ul>	Monthly







## Participation in international CSR initiatives

TEL is a member of the UN Global Compact, a global CSR initiative, and the EICC<sup>1</sup>, an electronic industry CSR alliance. We comply with these initiatives' codes of conduct and principles in areas regarding such issues as human rights, labor, environment, safety and health, ethics and corruption prevention. By doing so, we strive to maintain a sustainable management platform.

### UN Global Compact

- An international initiative for sound globalization and sustainable societies
- TEL signed in 2013

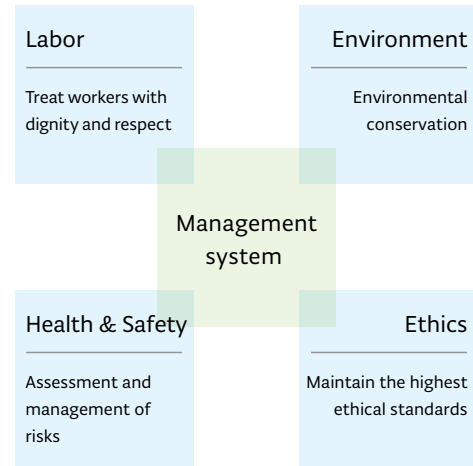
#### The Ten Principles of the UN Global Compact

 <p>Human Rights</p>	<p><b>Principle 1</b> Businesses should support and respect the protection of internationally proclaimed human rights; and</p> <p><b>Principle 2</b> make sure that they are not complicit in human rights abuses.</p>
 <p>Labor</p>	<p><b>Principle 3</b> Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;</p> <p><b>Principle 4</b> the elimination of all forms of forced and compulsory labor;</p> <p><b>Principle 5</b> the effective abolition of child labor; and</p> <p><b>Principle 6</b> the elimination of discrimination in respect of employment and occupation.</p>
 <p>Environment</p>	<p><b>Principle 7</b> Businesses should support a precautionary approach to environmental challenges;</p> <p><b>Principle 8</b> undertake initiatives to promote greater environmental responsibility; and</p> <p><b>Principle 9</b> encourage the development and diffusion of environmentally friendly technologies.</p>
 <p>Anti-corruption</p>	<p><b>Principle 10</b> Businesses should work against corruption in all its forms, including extortion and bribery.</p>

### EICC

- A code of conduct for electronics supply chains
- TEL joined in 2015

#### EICC Framework (Five sections)



<sup>1</sup> EICC is a registered trademark of the Electronic Industry Citizenship Coalition Incorporated

## Third-party recognition

TEL's medium- to long-term initiatives to increase its corporate value have been recognized by world-leading socially responsible investment (SRI) institutions.

In fiscal 2017, TEL was selected for inclusion in the DJSI<sup>2</sup> Asia Pacific 2016. We also received the Bronze Class distinction in the RobecoSAM Sustainability Award 2017. Furthermore, we were once again selected as a constituent of the UK-based FTSE Group's FTSE4Good<sup>3</sup> Global Index.



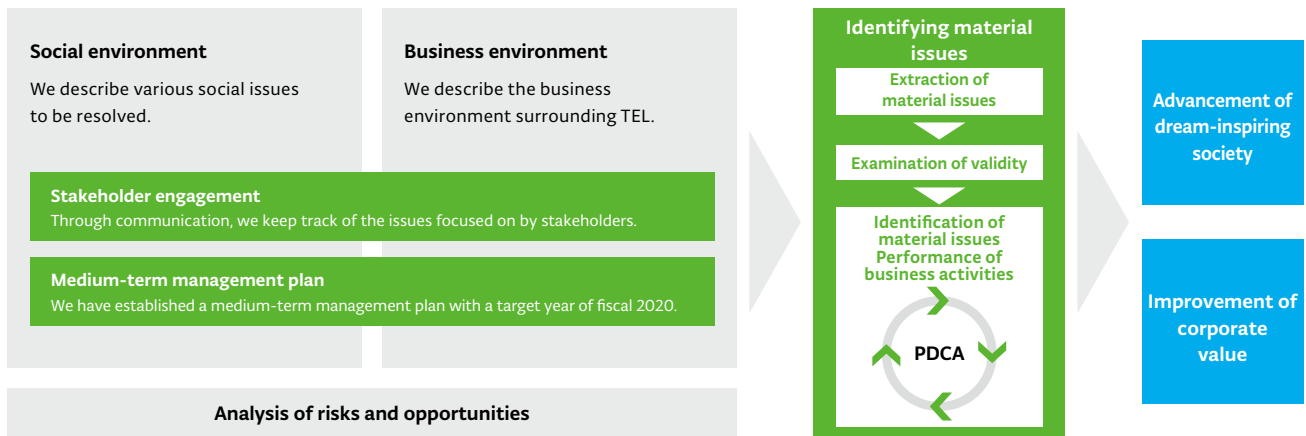
<sup>2</sup> DJSI (Dow Jones Sustainability Indices): Environmental, social and governance (ESG) investment indices developed by U.S.-based S&P Dow Jones Indices LLC and Switzerland-based RobecoSAM AG. The Asia Pacific index covers companies in that region.

<sup>3</sup> FTSE4Good: An index related to environmental performance and corporate social responsibility developed by the UK-based FTSE Group

# Material issues

## Process for identifying material issues

TEL identifies material issues that are crucial for further improving its corporate value. To identify the issues, we take into account social issues, stakeholder expectations, the business environment and the company position. For each material issue, we set medium-term and annual goals, and implement various projects aimed at achieving those goals.



## Social environment

Growth of the global economy does not rest solely on developed countries. Recently, the global economy has also been supported by growth in emerging economies such as India and China. This rapid economic growth has led to a number of new issues for humankind, including more concentration of people in urban areas, depletion of food and energy resources, global warming, and declining birthrates and aging populations in developed countries. In dealing with an ever-changing environment and social issues, companies must collaborate and contribute to the resolution of these issues through their business activities. We are committed to helping resolve social issues highlighted in the Sustainable Development Goals (SDGs) agreed upon by the international community, the Ten Principles of the UN Global Compact, the EICC Code of Conduct, the Global Reporting Initiative (GRI), and advice of the World Economic Forum and third-party organizations.

### Sustainable Development Goals (SDGs)

Adopted by the United Nations in 2015, the SDGs are universal goals to protect our planet for a better future. They are a set of 17 goals and 169 targets to be achieved by 2030 with a philosophy of ensuring that no one is left behind.



Tokyo Electron Limited supports the SDGs.

## Stakeholder engagement

Building firm stakeholder trust is essential to raising corporate value. To help stakeholders more deeply understand the progress of its business initiatives and the future direction of its business, TEL discloses highly transparent information in a fair and timely manner through regular briefings and its corporate website. We also work to accurately understand the opinions and demands of stakeholders and to reflect these in our business activities through dialog, surveys and designated contact points. We will continue to actively promote stakeholder engagement, using it to appropriately inform decision making in the course of everyday business activities, and thus further raise corporate value.

Stakeholders	Key communication methods	Key opinions and requests	Key relevant material issues
<b>Shareholders/ investors</b>	<ul style="list-style-type: none"> <li>Earnings announcement</li> <li>ESG surveys</li> <li>Interviews</li> </ul>	<ul style="list-style-type: none"> <li>Medium- to long-term business outlook and measures for improving performance</li> <li>Corporate governance leading to medium- to long-term growth</li> <li>Initiatives for reducing environmental impact</li> </ul>	<ul style="list-style-type: none"> <li>Enhancing product competitiveness</li> <li>Strengthening earnings power</li> <li>Establishing a sustainable management platform</li> </ul>
<b>Customers</b>	<ul style="list-style-type: none"> <li>Technology conference</li> <li>Customer satisfaction survey</li> <li>Interviews</li> </ul>	<ul style="list-style-type: none"> <li>Accurate understanding of customer needs</li> <li>Proposal of high-value-added solutions</li> <li>Coordination of information within the Group</li> </ul>	<ul style="list-style-type: none"> <li>Reinforcing responsiveness to customers</li> <li>Strengthening earnings power</li> </ul>
<b>Suppliers</b>	<ul style="list-style-type: none"> <li>Production update briefing/Partners day</li> <li>STQA* audit</li> <li>Interviews</li> </ul>	<ul style="list-style-type: none"> <li>Standardization of operations within the company</li> <li>Greater promotion of collaborative systems</li> <li>Increased opportunities for communication</li> </ul>	<ul style="list-style-type: none"> <li>Strengthening earnings power</li> <li>Establishing a sustainable management platform</li> </ul>
<b>Employees</b>	<ul style="list-style-type: none"> <li>Employee meetings</li> <li>Global engagement survey</li> <li>Interviews</li> </ul>	<ul style="list-style-type: none"> <li>Development of systems leading to motivation and job satisfaction</li> <li>Support for medium- to long-term career planning</li> </ul>	<ul style="list-style-type: none"> <li>Invigorating people and workplaces</li> </ul>
<b>Local communities</b>	<ul style="list-style-type: none"> <li>Community contribution activities</li> <li>Tours of factories and offices</li> </ul>	<ul style="list-style-type: none"> <li>Community revitalization</li> <li>Creation of employment opportunities</li> <li>Proper environmental operations</li> </ul>	<ul style="list-style-type: none"> <li>Invigorating people and workplaces</li> <li>Establishing a sustainable management platform</li> </ul>
<b>Governments/ associations</b>	<ul style="list-style-type: none"> <li>Industry group activities</li> <li>Collaboration with various initiatives</li> </ul>	<ul style="list-style-type: none"> <li>Creation of innovation leading to the resolution of social issues</li> <li>Initiatives for respect for human rights</li> <li>Responsible procurement</li> </ul>	<ul style="list-style-type: none"> <li>Enhancing product competitiveness</li> <li>Invigorating people and workplaces</li> <li>Establishing a sustainable management platform</li> </ul>

\* STQA: Supplier Total Quality Assessment

### Example of communication: Employee meetings

Employee meetings are held regularly at each TEL factory and office as a way for senior management to communicate directly with employees. Over a four month period during fiscal 2017, the Representative Director, President & CEO and other members of senior management visited overseas subsidiaries as well as factories and offices in Japan to explain our business environment and management policies. During these visits, they also participated in panel discussions and other employee exchanges.

Feedback from participating employees showed that about 80% were satisfied with this engagement with senior management. Comments included, "It was worth hearing directly from top management about the direction the company is aiming for," and "I want management to boost employee motivation even more."



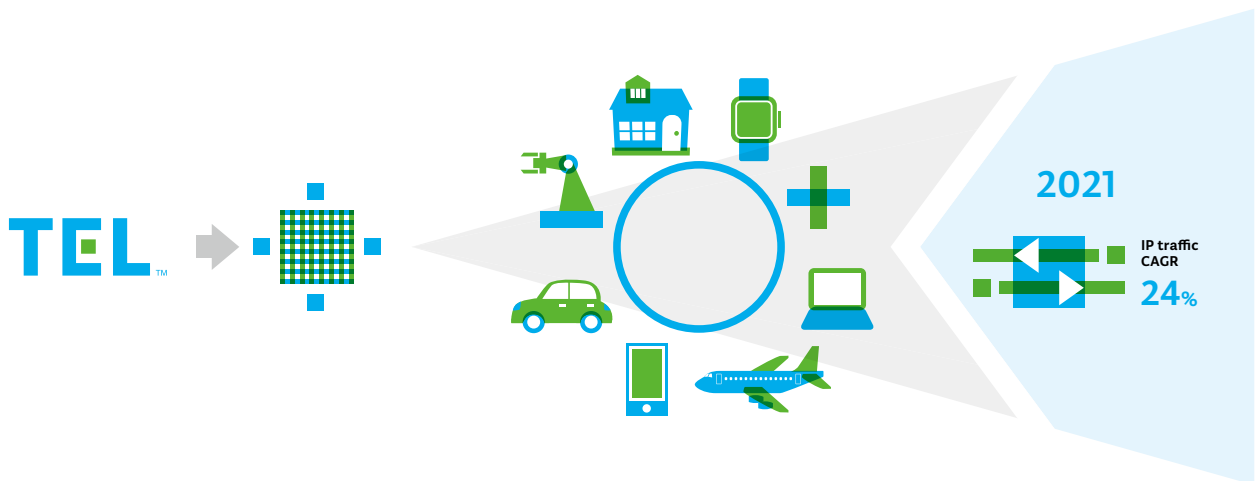
## Business environment

The environment surrounding semiconductors produced by using TEL equipment is at a turning point moving toward a new era. With advances being made in IoT, with a huge variety of devices connected to networks, the rate of IP traffic\* is projected to grow 24% annually. While the volume of information handled is growing with the increased popularity of cloud services, at the same time, the uses of semiconductors are becoming more and more widespread. New uses include automated driving, which requires a high degree of reliability, DNA analysis in medical and biotechnology fields, and computer applications based on artificial intelligence and new technologies such as AR and VR.

Meanwhile, as LCD TVs and smartphone screens become increasingly larger, it is expected that there will be greater demand for FPDs with higher resolution and lower power consumption. Organic electroluminescent displays have also been gaining attention from the perspective of increasing screen size and the degree of processing flexibility. With the evolution of IoT and the growing use of displays as interface devices—rather than merely as display devices—massive real-time systems centered on semiconductors and FPDs are set to be built across the whole of society.

Amid such a business environment, the functions fulfilled by semiconductor and FPD production equipment are growing ever more broad. Also essential are existing general-purpose technologies capable of meeting increasingly diverse technological needs that will only expand with the IoT. As required technologies become more advanced, the need for our comprehensive capabilities as a production equipment manufacturer will increase. Having multiple product lines will enable us to offer a range of solutions by combining more than one product, and could expand business. In terms of environmental aspects and asset management, there is an increasing need to reconstruct and upgrade sold equipment, to improve equipment productivity through remote diagnosis, and to promote a business model that covers the entire lifecycle of equipment. Also, in line with moving toward smart fabs in the future, there is an increasing need to make equipment smarter through the use of artificial intelligence.

\* IP traffic: The amount of data sent and received on a network



Cisco Visual Networking Index: Forecast and Methodology, 2016–2021

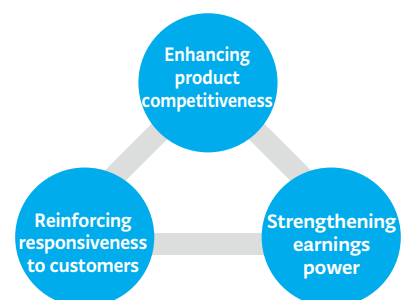
## Medium-term management plan

TEL has established the medium-term management plan for the period to the end of March 2020.

### Medium-term vision

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.

There are three things we regard as important under our medium-term management plan: providing high-value-added products with a focus on the next generation, based on our advanced technology development capability; strengthening our responsiveness to customers and being an irreplaceable strategic partner for customers; and ensuring world-class profitability by pursuing streamlined operations. With these three items as key pillars of our medium-term management plan, we are promoting efforts on a company-wide basis.



## Risks and opportunities

Social issues, stakeholder expectations, and the surrounding business environment are key inputs to our medium and long-term plans. The following risks and opportunities have been determined to have a considerable impact on medium- to long-term business operations.

### Environmental issues including climate change

Climate change is an issue requiring action on a global scale. Demands to reduce greenhouse gases are increasing due to increased global warming as well as floods and water shortages caused by abnormal weather, all increasing the burden on business. Any tightening of environmental laws and regulations also leads to changes in products, responses at factories and offices, and increases in associated costs. At the same time, promoting efforts against climate change leads to the provision of outstanding environmentally friendly products and reductions in operation costs.

### Evolution of technology

In this industry, technological innovation is fast. Responding to change and creating innovative technologies is crucial. If such technologies cannot be created in a timely manner, there is a risk of losing product dominance, an adverse impact on profits. Conversely, responding appropriately to technical diversification and evolution enables the provision of high-value-added products.

### Changes in population trends

To continue growing in the medium to long term, recruiting and retaining personnel is particularly important, especially amid issues such as dwindling birthrates and aging populations in developed countries and educational gaps caused by poverty and economic disparity. Being unable to recruit necessary personnel could result in a diminished ability to undertake highly specialized development or to provide service support. On the other hand, for an appealing company where employees can demonstrate their full potential, having various measures and systems in place can help it to secure excellent talent and further bolster its competitiveness as a company.

### Sustainable business management

Governance is an important part of business continuity. Negligence in compliance in particular could affect business continuity because of legal penalties or damage to the corporate image. Sound and highly transparent business management builds solid relationships of trust with stakeholders and leads to opportunities for further growth.

### Supply chain management

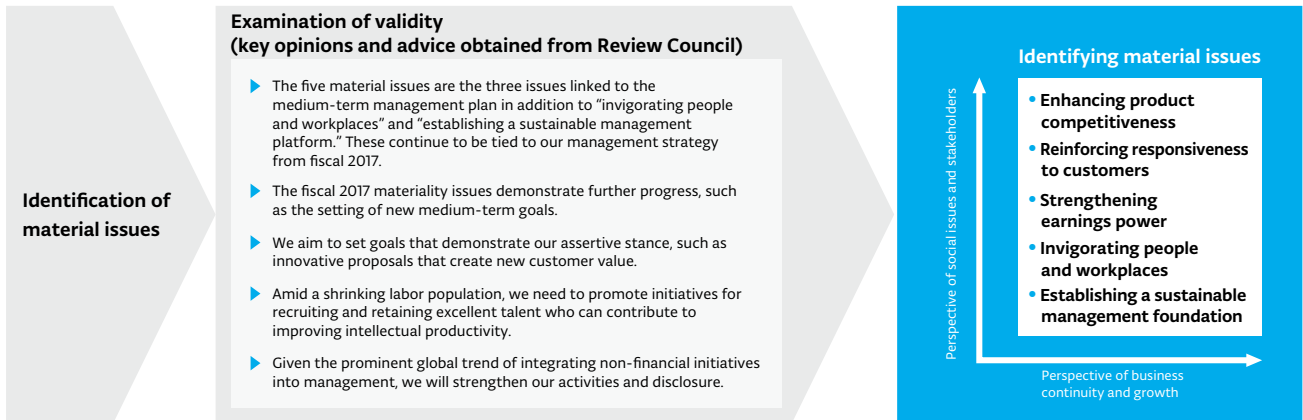
As the importance of social responsibility in supply chain management increases, companies are seeking responsible procurement activities across their entire supply chain. Failing to observe laws, regulations, industry codes, and other standards could hinder the stable supply of parts and materials and adversely affect the company's production system. In contrast, proactive supply chain management facilitates a sound and sustainable supply chain and brings with it a win-win relationship with suppliers based on trust.

Along with minimizing risk in our business operations, we are committed to enhancing corporate value through a variety of initiatives that lead to further growth.

Social trends	Risks for TEL	Negative consequences	Opportunities	Our initiatives
<b>Environmental issues including climate change</b>	<ul style="list-style-type: none"> <li>Responding to global warming</li> <li>Compliance with environmental laws and regulations</li> </ul>	<ul style="list-style-type: none"> <li>Breaches of laws and regulations</li> <li>Increases in business costs</li> </ul>	<ul style="list-style-type: none"> <li>Reduction of operational costs</li> <li>Improved environmental performance of products</li> </ul>	<ul style="list-style-type: none"> <li>Environmental contribution of products (P20)</li> <li>Environmental management (P45, 46)</li> </ul>
<b>Evolution of technology</b>	<ul style="list-style-type: none"> <li>Keeping up with the speed and diversification of technology</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in product dominance</li> </ul>	<ul style="list-style-type: none"> <li>Generating innovative products and services</li> </ul>	<ul style="list-style-type: none"> <li>Challenging technological innovation to create value (P17–19)</li> </ul>
<b>Changes in population trends</b>	<ul style="list-style-type: none"> <li>Securing human resources</li> </ul>	<ul style="list-style-type: none"> <li>Decline in development and support capability</li> </ul>	<ul style="list-style-type: none"> <li>Enhancing corporate competitiveness</li> </ul>	<ul style="list-style-type: none"> <li>Invigorating people and workplaces (P33–37)</li> </ul>
<b>Sustainable business management</b>	<ul style="list-style-type: none"> <li>Effectiveness of governance</li> </ul>	<ul style="list-style-type: none"> <li>Ethics and compliance violations</li> <li>Weakening of monitoring and checking functions</li> </ul>	<ul style="list-style-type: none"> <li>Sound and highly transparent management</li> </ul>	<ul style="list-style-type: none"> <li>Corporate governance (P40, 41)</li> <li>Ethics and compliance (P41, 42)</li> </ul>
<b>Supply chain management</b>	<ul style="list-style-type: none"> <li>Responsible procurement</li> </ul>	<ul style="list-style-type: none"> <li>Weakening of supply system</li> </ul>	<ul style="list-style-type: none"> <li>Creation of new value through collaboration</li> </ul>	<ul style="list-style-type: none"> <li>Initiatives with suppliers (P31)</li> <li>Supply chain management (P47, 48)</li> </ul>

## Identifying material issues

Together with external experts, TEL considered the relevance of the identified material issues from the perspectives of social issues, stakeholder views, the business environment surrounding the company, its corporate philosophy, management policies and medium-term management plan, as well as risks and opportunities. As a result, we determined that the materials issues identified in fiscal 2017 remain relevant for fiscal 2018. We have clarified medium-term goals for each material issue, and have set separate themes and short-term priority targets for each goal.



## Material issues and CSR goals

Fiscal 2017			
Material issues	Themes	Main annual goals	Results
<b>Enhancing product competitiveness</b>	Innovation	<ul style="list-style-type: none"> <li>• Maintain development costs at the fiscal 2016 level</li> </ul>	<ul style="list-style-type: none"> <li>• Maintained development costs at the fiscal 2016 level (fiscal 2017: ¥83.8 billion)</li> </ul>
	Environmental contribution of products	<ul style="list-style-type: none"> <li>• Continue initiatives to reduce per-wafer consumption of energy and pure water by 10% by fiscal 2019 (as compared with fiscal 2014)</li> </ul>	<ul style="list-style-type: none"> <li>• Achieved goal for three models (CLEAN TRACK™ LITHIUS Pro™ Z, Precio™ XL and Certas LEAGA™) ahead of schedule</li> </ul>
<b>Reinforcing responsiveness to customers</b>	Customer satisfaction	<ul style="list-style-type: none"> <li>• Get 3 points or more on a 4-point scale for every item in the customer satisfaction survey</li> </ul>	<ul style="list-style-type: none"> <li>• Achieved for 67.6% of items (5% improvement year-over-year)</li> </ul>
	Quality	<ul style="list-style-type: none"> <li>• Implement PDCA<sup>1</sup> training and disseminate the TEL 6-Step model</li> </ul>	<ul style="list-style-type: none"> <li>• PDCA training: Implemented to employees at all TEL Group business sites. Attended by 89% of employees (as of April 2017)</li> <li>• TEL 6-Step: Implemented courses for key members at main locations in TEL Group</li> </ul>
	Information security	<ul style="list-style-type: none"> <li>• Ensure all target employees take a training course in information security</li> </ul>	<ul style="list-style-type: none"> <li>• Achieved attendance rate of 100%</li> </ul>
<b>Strengthening earnings power</b>	Streamline operations	<ul style="list-style-type: none"> <li>• Maintain the number of TPM programs at the fiscal 2016 level</li> </ul>	<ul style="list-style-type: none"> <li>• Maintained programs at the fiscal 2016 level</li> </ul>
<b>Maximizing dreams and drive</b>	Create an invigorating workplace	<ul style="list-style-type: none"> <li>• Provide a workplace that supports continuous growth while ensuring performance-responsive, scrupulously fair treatment of employees</li> </ul>	<ul style="list-style-type: none"> <li>• Implemented the TEL Global Engagement Survey</li> <li>• Introduced healthcare platform Pep Up</li> </ul>
	Social contribution	<ul style="list-style-type: none"> <li>• Maintain the number of social contribution programs at the fiscal 2016 level</li> </ul>	<ul style="list-style-type: none"> <li>• Maintained programs at the fiscal 2016 level (fiscal 2016: 242, fiscal 2017: 254)</li> </ul>
<b>Establishing sustainable operations</b>	Corporate governance	<ul style="list-style-type: none"> <li>• Improve the operation of the Board of Directors through annual effectiveness evaluations</li> </ul>	<ul style="list-style-type: none"> <li>• Reviewed resolutions by the Board of Directors, promoted delegation to executive management, and increased discussion time</li> <li>• Briefed outside officers on draft proposals and background information, helping to stimulate discussion</li> </ul>
	Compliance and ethics	<ul style="list-style-type: none"> <li>• Ensure all employees complete training courses in business ethics and compliance</li> </ul>	<ul style="list-style-type: none"> <li>• 98% attendance (as of the end of March 2017, in Japan only; overseas companies will complete this training by the end of June 2017)</li> </ul>
	Business continuity management	<ul style="list-style-type: none"> <li>• Provide business continuity plan (BCP) training at principal manufacturing sites and headquarters, revise the BCP manual and implement safety confirmation system training (all to be performed annually)</li> </ul>	<ul style="list-style-type: none"> <li>• Carried out BCP training and safety confirmation training and revised the BCP manual at main locations</li> </ul>
	Safety	<ul style="list-style-type: none"> <li>• Ensure that the number of workplace injuries per 200,000 work hours (TCIR) is less than 0.5</li> </ul>	<ul style="list-style-type: none"> <li>• Achieved less than 0.5 (fiscal 2017: 0.28)</li> </ul>
	Environmental management	<ul style="list-style-type: none"> <li>• Reduce energy consumption by 1% from the fiscal 2016 level (on a per-unit basis<sup>2</sup>)</li> <li>• Maintain water consumption at the fiscal 2012 level (on a per-unit basis)</li> </ul>	<ul style="list-style-type: none"> <li>• Energy consumption: Reduced by 0.1% from the fiscal 2016 level</li> <li>• Per-unit target: Achieved at 7 out of 11 business sites</li> <li>• Water consumption: 11% reduction compared to base year level</li> <li>• Per-unit target: Achieved 10 out of 14 targets</li> </ul>
	Supply chain management	<ul style="list-style-type: none"> <li>• Reinforce supply chain management through supply chain CSR assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Assessed key suppliers accounting for more than 80% of our procurement spend</li> <li>• Improvements in rating scores and rating grades were observed at 59% and 17% of suppliers respectively</li> </ul>

1 PDCA: A method for continuously improving business processes by repeatedly carrying out the four stages of Plan, Do, Check, and Act

2 Per-unit basis: A figure obtained by subtracting environmental impact from closely-associated measurements such as production volume, personnel, and total building floor area

## Material issues

### • Enhancing product competitiveness

In the industries in which TEL operates, technological innovation advances very quickly. We must keep pace with this innovation while continuously offering high-value-added products that accommodate next-generation technologies. By globally engaging in cutting-edge technological development, we can release competitive products in a timely manner.

### • Reinforcing responsiveness to customers

As new markets emerge—most notably those created by the Internet of Things (IoT)—customer demands are diversifying, and expectations for equipment performance are rising. Accurately understanding customer needs and delivering solutions that meet these needs is crucial. We strive to reinforce our responsiveness to customers so that they will see us as an irreplaceable strategic partner.

### • Strengthening earnings power











Profit is the engine that advances business activities. TEL works to continuously generate profit by providing high-value-added products and services and improving business processes. The ongoing generation of profit drives virtuous cycles, including reinvestment in business and the return of value to shareholders, employees and society at large, helping to make both our company and society more sustainable.

### • Invigorating people and workplaces

People are an especially important management resource. Employees who feel purpose in their work and take pride in their company help to increase productivity and power corporate development. By promoting diverse work styles and helping employees build their careers, we are increasing employee engagement and invigorating our people and workplaces.

### • Establishing a sustainable management foundation

The establishment of a solid management foundation that underpins corporate activities is key to sustainable growth. To create new value through our business and help address social issues, we steadily operate a highly effective governance structure. By doing so, we implement sound, highly transparent management.

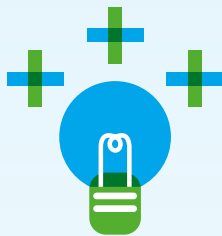
Fiscal 2018				
Material issues	Themes	Main annual goals	Medium-term goals	Relevant SDGs
Enhancing product competitiveness	Technological innovation aimed at creating value	<ul style="list-style-type: none"> <li>Ensure that 5% or more (three-year moving average) of all equipment models are new products for next-generation technologies</li> <li>Maintain the previous year's global patent application rate</li> </ul>	Create highly competitive next-generation products	 
	Environmental contribution of products	<ul style="list-style-type: none"> <li>Reduce per-wafer consumption of energy and pure water by 10% by fiscal 2019 (as compared with fiscal 2014)</li> </ul>		
Reinforcing responsiveness to customers	Accurate grasp of customer needs	<ul style="list-style-type: none"> <li>Get 3 points ("Satisfied") or more on 100% of customer satisfaction survey items</li> </ul>	Become an irreplaceable strategic partner	 
	Solutions that create value for customers	<ul style="list-style-type: none"> <li>Increase TEL's value to customers</li> <li>Increase field solutions business sales from the fiscal 2017 level</li> </ul>		
Strengthening earnings power	High quality products	<ul style="list-style-type: none"> <li>Reduce quality improvement costs from the fiscal 2017 level</li> </ul>	Improve operational efficiency	
	Increase added value of processes	<ul style="list-style-type: none"> <li>Revise business processes to reduce man-hours used for sales operations from the fiscal 2017 level</li> </ul>		
Invigorating people and workplaces	Human rights and diversity	<ul style="list-style-type: none"> <li>Retain 100% of new employees for the first three years</li> <li>Reach 70% paid vacation usage</li> <li>Increase the use of the Group's "Pep Up" healthcare platform from the fiscal 2017 level</li> </ul>	Maximize dreams and drive	 
	Work-life balance			
	Human resource development			
	Health			
Establishing a sustainable management foundation	Corporate governance	<ul style="list-style-type: none"> <li>Improve on issues identified in evaluations of the effectiveness of the Board of Directors</li> <li>Revise the internal reporting system (set up new external hotlines, revise range of persons covered, etc.)</li> </ul>	Build a management foundation for increasing value	  
	Safety management	<ul style="list-style-type: none"> <li>Ensure that the number of workplace injuries per 200,000 work hours (the total case incident rate) is less than 0.5</li> </ul>		
	Environmental management	<ul style="list-style-type: none"> <li>Reduce energy consumption by 1% from the fiscal 2017 level (on a per-unit basis)</li> <li>Maintain water consumption at the fiscal 2012 level (on a per-unit basis)</li> </ul>		
	Supply chain management	<ul style="list-style-type: none"> <li>Implement supply chain CSR assessments for 80% or more of suppliers (procurement volume basis)</li> </ul>		

Enhancing  
product  
competitiveness

Medium-term goal

Create highly competitive next-generation products

Priority themes



Technology innovation  
aimed at creating value



Environmental  
contribution of products

Relevant SDGs



9 Industry,  
innovation and  
infrastructure



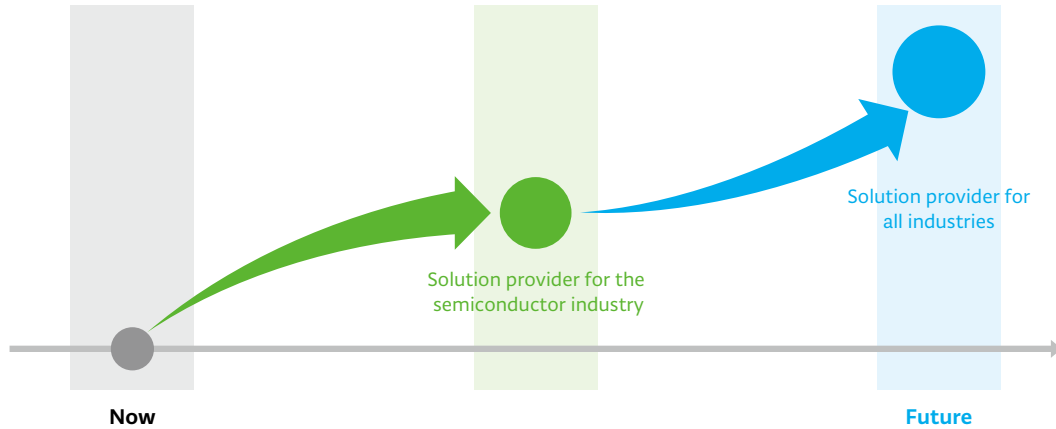
13 Climate action



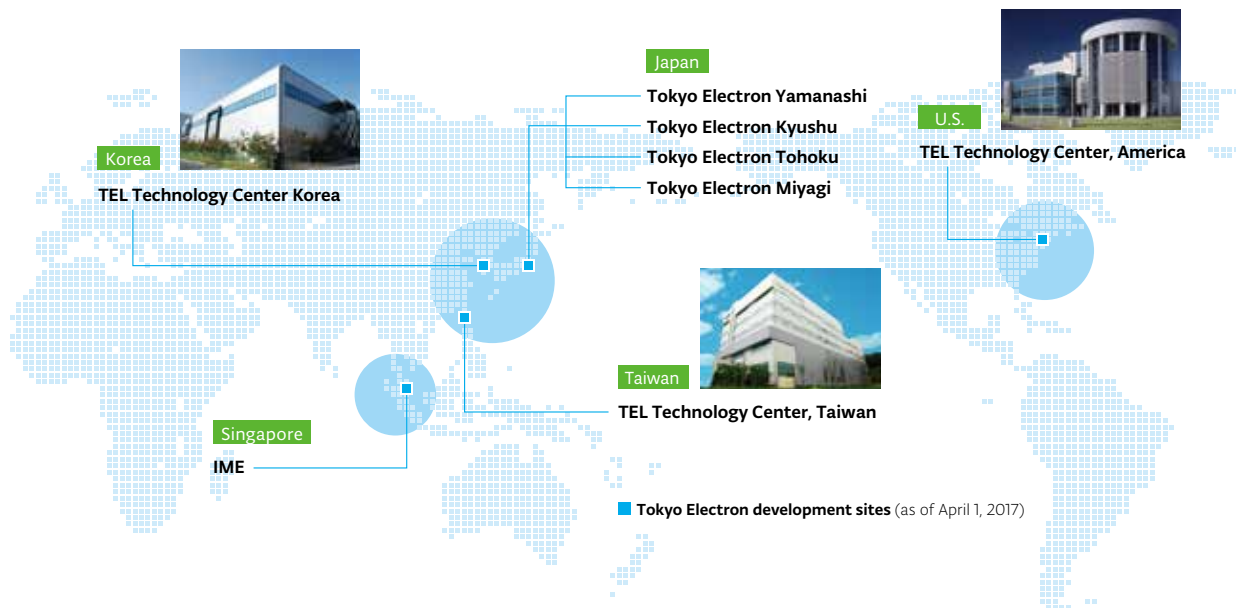
## TEL's research and development

### Pursuing innovation for the future

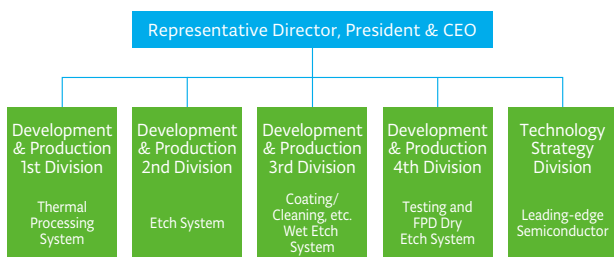
TEL is holding lively discussions regarding technology for the future as well as its contribution in order to prepare for a new era of greater familiarity with electronics and greater reliance on semiconductors. Using our technologies, we will add to the development of semiconductors with increasing importance across all industries, contributing to a richer, more vibrant society.



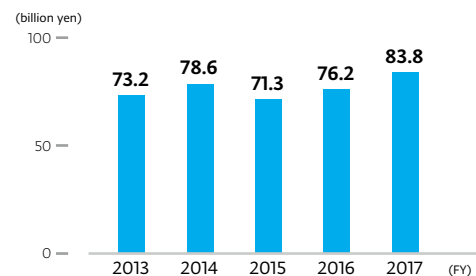
### Global development sites



### R&D organization



### R&D expenses



## Technology innovation aimed at creating value

### Innovative manufacturing technologies that support semiconductor evolution –3D NAND–

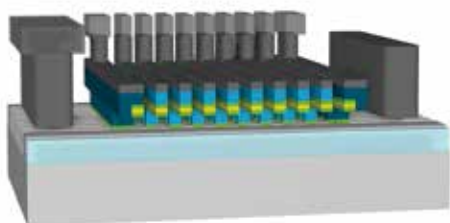
Mass production of 3D NAND chips, achieved through developments in manufacturing technologies, not only enables higher performance for electronic devices such as computers and smartphones, but also contributes to reduced energy usage. For example, if the huge number of hard disk drives<sup>1</sup> used in data centers could be replaced by 3D NAND solid state drives,<sup>2</sup> we could expect considerable savings in power consumption.

As demand for 3D NAND increases, we are focused on developing technologies that support these next-generation products. The density<sup>3</sup> of semiconductors is usually increased by reducing circuit line width. However, the circuit line width of NAND devices is currently around 15 nanometers<sup>4</sup> resulting in an extremely low number of electrons being stored in each cell (memory element). Therefore we are reaching the physical limit of what is possible by reductions in line width. As a solution to further increase density, semiconductor chip cells are stacked three-dimensionally in 24 layers or 48 layers to create a 3D NAND structure using shared pillar electrodes. This creates a need for manufacturing technologies that are completely different from previous technologies.

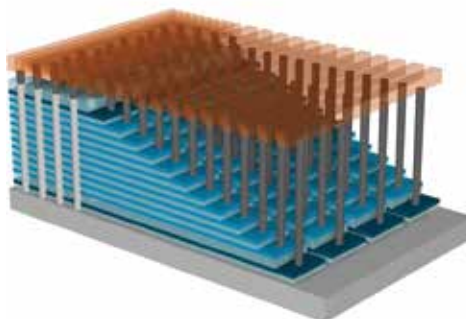
One of these technologies is multilayer formation technology, which is used to create the three-dimensional structure. 3D NAND requires the ability to lay two different layers on top of each other and then continue building up the layers, but difficulties include how to uniformly create two different layers on 300 mm wafers and how to control reaction to gases used in the formation process. Advanced etching technologies specific to 3D NAND are also required to etch high aspect ratio<sup>5</sup> holes (greater than 100 nanometers in diameter and 2.8 micrometers<sup>6</sup> in depth) in the multilayer wafers.

As a comprehensive manufacturer of semiconductor production equipment with a wide range of products, we are using our accumulated technologies to develop products that solve these various technical issues.

- 1 Hard disk drive (HDD): A type of external storage device for recording and retrieving data
- 2 Solid state drive (SSD): A semiconductor disk drive using NAND flash memory as a recording medium. With their high speed and low power consumption, SSDs dramatically reduce running costs, so demand for use in data centers is increasing.
- 3 Density: The number of transistors per semiconductor integrated circuit
- 4 Nanometer: 1 billionth of a meter
- 5 Aspect ratio: Ratio of depth and width of patterns formed on wafers
- 6 Micrometer: 1 millionth of a meter



2D NAND



3D NAND

## Making semiconductor production equipment more intelligent –AI–

TEL is using AI\* to make the semiconductor production equipment it manufactures more intelligent. Semiconductor production equipment uses various fabrication processes in a nanometer-level world that is invisible to the human eye. We are working on visualizing this nanoscale world through the power of data and AI helping us to understand the condition of our equipment. We are also currently developing a range of applications that use AI to analyze the vast amounts of digital data coming from the equipment, including operating logs, sensors, and measurement data, to avoid unexpected downtime, maintain equipment performance during operation, and achieve uniform accuracy when processing wafers.

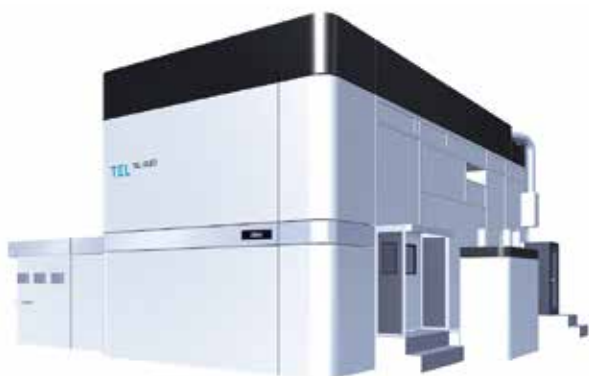
We already offer a TELeMetrics™ remote diagnostic service via the Internet for real-time monitoring of our semiconductor production equipment. Going forward, we will continue to evolve the equipment to enable it to conduct self-diagnostics, adjustments, and autonomous operation.

\* Artificial intelligence

## Development of high value-added display production technologies

### –Organic electroluminescent displays–

Organic electroluminescent displays use light-emitting diodes made from organic compounds. Unlike liquid crystal displays, organic electroluminescent displays emit light themselves when powered rather than requiring backlights or other light sources. This gives them great potential for use as next-generation display devices producing high quality images with low power consumption. The organic luminescent layer of these displays is conventionally formed using vapor deposition in a vacuum, but our organic electroluminescent display panel production equipment employs an inkjet method to form this layer. This method enables us to form the layer by applying only the required amount of organic material to large glass substrates at atmosphere, which improves productivity by reducing material usage and fine particle contamination. To meet the expected growth in demand in the large panel TV market, we will continue developing systems based on these cutting-edge inkjet technologies, including drying and baking processes after applying the organic material. These systems will contribute to improved productivity in organic electroluminescent display manufacture and further growth in the market.



Inkjet Printing System  
for manufacturing OLED panels  
**Elius™**

# Enhancing product competitiveness

## Collaborating with international consortiums

TEL collaborates with international consortiums to pursue cutting-edge technologies and enhance its product competitiveness.

One consortium that we have been collaborating with for many years is Imec.<sup>1</sup> Imec includes several semiconductor production equipment suppliers as well as major semiconductor manufacturers, the latter being our important customers. We conduct many different joint research projects with Imec focused in areas that will lead to future innovations in semiconductors, such as new technologies, new materials, and lithography. Within these consortiums, globally leading semiconductor manufacturers and semiconductor production equipment manufacturers each bring their cutting-edge knowledge to the table, enabling effective technical innovation for next-generation production equipment.

Our collaboration with Imec has led to other collaborations with industry-leading companies. For example, we worked with a major optical equipment manufacturer in an advanced equipment environment to jointly develop EUV<sup>2</sup> technologies, a leading-edge technology for lithography. Together, we also developed immersion ArF,<sup>3</sup> a technology that is becoming widely used for fine pattern formation.

Collaborations with international consortiums like this also help us develop our own engineers. About 10 of our engineers are currently stationed locally at Imec. By working alongside world-class engineers and researchers, including our competitors, they are honing their technical skills and better preparing for the future.



- 1 Imec: Interuniversity Microelectronics Centre is an international research institute headquartered in Leuven, Belgium
- 2 Extreme ultraviolet lithography (EUV): A next-generation lithography technology
- 3 Immersion ArF: Immersion ArF is a lithography technology that uses argon fluoride (ArF) excimer lasers as the light source and water as the immersion medium between the lens and wafers

## Protecting and using intellectual property

TEL's basic policy for intellectual property (IP) is to increase corporate revenues by supporting operations through IP protection. In line with this policy, we allocate IP personnel to product development centers and manufacturing facilities where research and development are performed, as well as to corporate headquarters where our sales and marketing departments are concentrated. These employees work closely with their departments to develop an IP portfolio that aligns with our technological and product strategies. They also work to minimize the risk of IP disputes by monitoring the competitive environment.

We file patent applications to protect and use IP effectively in the relevant countries where we and our customers operate. Our global patent application rate<sup>4</sup> has remained high, at around 70% for six consecutive years. In 2015, our patent application success rates in Japan and in the United States were 66.5% and 72.3%, respectively.

Under our worldwide structure, we are able to build a strong, strategic portfolio. This strong portfolio allows us to differentiate our products, enhance our competitiveness, and ultimately increase our revenue.

4 Global patent application rate: Percentage of invention applications filed in multiple countries

## Environmental contribution of products

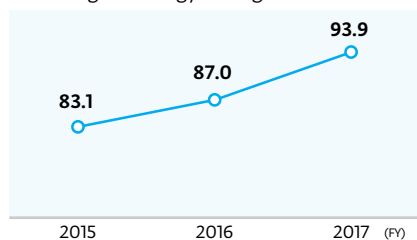
### Products that contribute to a sustainable society

The total CO<sub>2</sub> emissions from the TEL value chain (including raw material procurement and product manufacture, transport, use, and disposal) was calculated according to the GHG Protocol.<sup>1</sup> Emissions arising from product use currently account for 90% of our total CO<sub>2</sub> emissions. 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, thereby reducing impact on the environment from product use. In fiscal 2015, we established a goal to reduce energy and pure water consumption by 10% by fiscal 2019, using fiscal 2014 consumption as the baseline. To achieve this goal, we are working to reduce energy use and improve overall throughput. In fiscal 2016, we reached this goal with the Triase™ EX-II™ TiN Plus system. In fiscal 2017, we once again achieved the goal earlier than planned with the Precio™ XL wafer prober, the Certas LEAGA™ gas chemical etch system, and the CLEAN TRACK™ LITHIUS Pro™ Z coater/developer. In addition, the percentage of sales from energy-saving models<sup>2</sup> increased in fiscal 2017 to 93.9% of total product sales.

To further reduce the overall environmental impact of our products, we must examine our primary equipment, peripherals, associated facilities, and management at our customers' factories. Going forward, it will become increasingly important to improve the operational efficiency of our equipment and encourage overall energy-efficient operations at our customers' factories. Therefore, we will continue to focus on monitoring and controlling our own energy use. We also plan to demonstrate the importance of energy saving measures through compliance with SEMI S23, the semiconductor industry standard for assessing energy conservation.

To meet our goals, we are promoting environmentally friendly manufacturing, development of new technologies, proactive measures to contain greenhouse gases, and further reductions in the use of energy, water, and chemicals.

Percentage of energy-saving model sales in total sales (%)



\* Changes from last year's report: Figures have been updated due to revision of the applicable models

### Management of chemical substances in products

In order to manufacture environmentally friendly products, TEL has set up a system for managing hazardous chemicals in products it uses. In addition, we proactively collect information on relevant laws and regulations in Japan and abroad to properly ensure compliance. We had no legal or regulatory violations or penalties during fiscal 2017.

When any substance of very high concern (SVHC) is present in our products at a level of 0.1% or higher, we disclose the information appropriately, based on EU REACH<sup>3</sup> regulations. We also provide safety data sheets (SDS) in accordance with GHS<sup>4</sup> requirements. To comply more effectively with regulations such as EU REACH and China RoHS,<sup>5</sup> in April 2015, we conducted a survey of our Japanese suppliers regarding the chemical substances contained in their products based on JAMP AIS.<sup>6</sup> In fiscal 2017, we made capital investments to strengthen our IT systems with the aim of enhancing supply chain management of chemical substances in products we use.

We are also focusing on employee education. We now offer a seminar on Product Compliance with Environmental Laws and Regulations to all employees, including not only managers but also staff members from relevant departments. The seminar consists of an overview of frequently revised environmental laws and regulations, lectures on target chemical substances, and comprehension tests. In fiscal 2017, 97% of our employees took the course.

We will continue to closely monitor and appropriately respond to relevant laws and regulations worldwide, further increasing our efforts to reduce hazardous chemical substances.

1 GHG Protocol: Accounting and reporting standards for greenhouse gases (GHG)

2 Based on in-house standards

3 EU REACH: An EU regulation pertaining to the registration, evaluation, authorization, and restriction of chemicals

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

5 China RoHS: Chinese regulation on materials including lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBBs), and polybrominated diphenyl ethers (PBDEs). Businesses are required to provide customers with relevant information on the use of these materials.

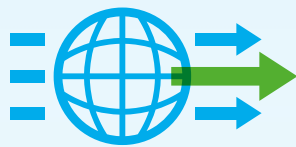
6 JAMP AIS: Article Information Sheet (AIS) promoted by the Joint Article Management Promotion-consortium (JAMP). This sheet is used to communicate basic information on regulated chemical substances contained in products.

Reinforcing  
responsiveness  
to customers

Medium-term goal

## Become an irreplaceable strategic partner

Priority themes



Accurate grasp  
of customer  
needs



Solutions that create  
value for customers

Relevant SDGs



**9** Industry,  
innovation and  
infrastructure

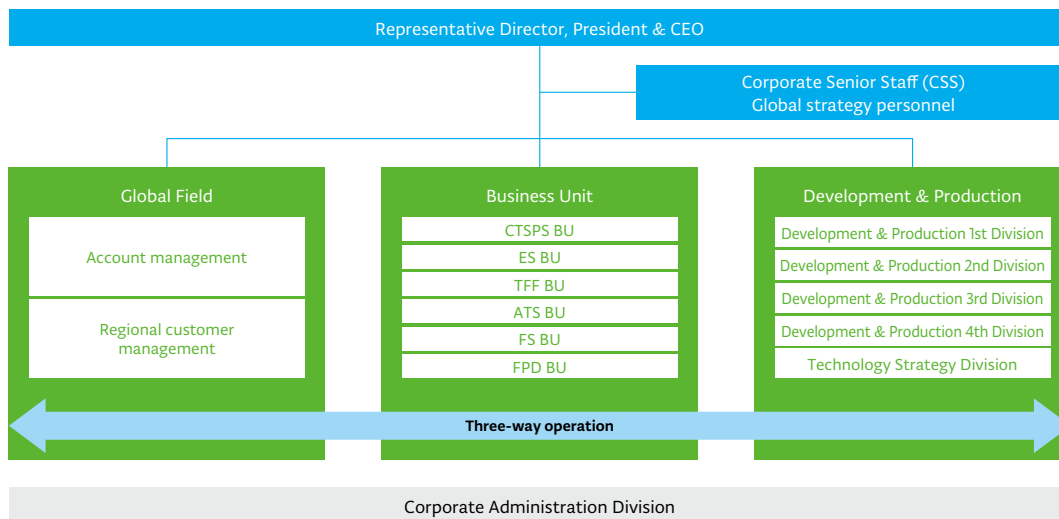


**12** Responsible  
consumption and  
production

## Systems for grasping customer needs

### System development

In 2016, TEL revised its organization structure to align with expansion in the global market by adding a customer (account) overlay to the structure, previously organized primarily by product-based business units. With collaboration between people focused on customer needs and people who are specialists in product-specific technologies, we aim to provide more global, high-value-added services.



### Sharing information and best practices

TEL conducts company-wide knowledge sharing to enhance customer service. Knowledge management promotes internal company sharing of tacit knowledge previously held by individuals. It encourages innovation and improves overall productivity. By connecting different business units and overseas sites that might have weak knowledge-sharing capabilities, we are working to implement best practices across the entire company to deliver high-quality services to our customers. In 2016, leaders from across the world collaborated as a Global Service Committee. The committee has started to develop global standards for working time management, skills management, and education methods to improve service levels and make the most of our approximately 3,000 service employees around the world.

Finally, we are also working to improve the quality of our business operations and sales activities by sharing sales-related best practices and information company-wide. These sales-related best practices include how to build highly precise order prediction systems and how to enhance the strategic thinking of our sales professionals.

### Strengthening human resources

TEL's Global Field Division was established in 2016 and is working alongside other divisions to develop an education system and education environment for the field engineers around the world. In addition to learning mechanics, electronics, software, and other basic technologies used by our equipment, field engineers develop a service mindset to see things from the customer's point of view. This focus supports them in further enhancing their customer support. With a comprehensive range of e-learning materials as well, we are creating an environment that delivers high quality training to all corners of the earth even when our equipment and other machinery is not available.

## Solutions that create value for customers

### Integrated solutions

TEL has a diverse range of products designed to resolve in-depth issues of leading-edge technology. As one of the few multi-product semiconductor equipment suppliers in the world, we must continually provide solutions optimized to the customer's entire manufacturing process. These days, semiconductor device manufacturers are facing on manufacturing devices with high productivity even down to five nanometer generation. With our diverse range of products, we support cutting-edge development and manufacturing operations through comprehensive and integrated solution proposals. We achieve this by collaborating with specialists in individual equipment as well as managers who oversee the customer's entire production process from a technology perspective.

### Proposing solutions that overcome barriers in the manufacturing process

Recently, it has become necessary for semiconductor device manufacturers to have ultra-fine processing capabilities on the scale of sub ten nanometers. In order to form these ultra-fine patterns, it is essential to have a combination of equipment carrying out various processes, together with optimization of the overall process. One example is forming high aspect ratio contact holes for the leading-edge semiconductors. In addition to the advanced etching processes for trenches, holes, and patternings, it is necessary to consider the integrated processes, taking into account mask structures and mask materials. Our strength lies in our wide range of products, which enables us to provide integrated solutions for multiple processes. Through a merger of technologies in our diverse range of equipment, we are partnering with our customers to support cutting-edge development strategies.

### Field engineers implementing workplace solutions

TEL field engineers work closely with customers' production sites and are able to proactively propose solutions. One of those solutions currently being implemented is predictive maintenance for coater/developer systems.\* With almost 100 modules in the driver unit, lost productivity from failures and parts replacement is a problem. This solution continually evaluates the condition of the driver unit, checking for signs of failures or abnormalities, in order to maximize uptime of customer equipment. In addition, our field engineers strive to deliver services from the customer's point of view, using their familiarity with the customer's equipment usage to analyze alarm logs and other equipment information to offer solutions that improve the condition of the equipment and achieve high-quality, high-availability operation.

\* Coater/developer systems: Used in the semiconductor production process, these systems employ a photolithographic process, which uses the same technology as photography, to apply and develop photoresist



## Business opportunities driven by IoT

In the era of the Internet of Things, where almost everything is connected to networks, the importance of semiconductors is increasing. With the use of semiconductors in a wide range of fields, from medicine to education, finance, automobiles, aviation, space, safety, and the environment, requirements for semiconductor manufacturing equipment are also becoming more diverse. So far, demand has centered on DRAM<sup>1</sup> and MPUs,<sup>2</sup> the “brains” of systems used in computers and mobile devices. With subsequent miniaturization and high integration, semiconductor manufacturing equipment has evolved as well. The diversification of semiconductors over recent years has led to increasing demand for high-performance semiconductors that handle big data for various applications, including servers, automated driving, and artificial intelligence. Demand is also increasing for general-purpose semiconductors in applications such as sensors, power devices, and discrete and analog semiconductors. At the same time, there is increasing customer demand for equipment that employs cutting-edge technologies as well as equipment that features standard technologies. Having delivered more than 60,000 machines as one of the largest suppliers in the industry, we are also providing customers with TEL Certified Used Equipment, including previous generation 300 mm or 200 mm equipment. We provide the modifications, upgrades, service, and parts needed to continue using our existing equipment. Altogether, we are working to meet the various needs of our customers.

- 1 Dynamic random access memory (DRAM): A type of semiconductor storage element for computers, etc.
- 2 Microprocessing unit (MPU): Microprocessors or semiconductor chips that mainly provide the computing power for computers



## Ensuring safety for customers

### Information provision

TEL provides relevant safety information to customers to enable safe handling of products that require hazardous chemicals or high voltage electricity.

All of our products come with a standard TEL Safety and Environmental Guidelines manual. With consistently organized information, this manual describes the potential risks associated with the use of our products by category, such as chemical, electrical, mechanical, and ergonomic, together with the methods for averting those risks. The manual also describes safety measures applied to products and recommended methods for product disposal. The manual is offered in 10 languages\* to ensure the content is correctly understood by our customers around the world. Each product also comes with a manual detailing the procedures for avoiding product-specific risks and securing safe operation and maintenance, thus ensuring safe use of the equipment.

Close attention must also be paid to safety when delivering our products to new customer production lines. We check the facilities, equipment, and workplace safety standards beforehand according to our internal rules to ensure a safe working environment prior to delivery.

\* 10 languages: Japanese, English, German, French, Italian, Dutch, Russian, Korean, Traditional Chinese, and Simplified Chinese

### Training

TEL provides its customers with training on equipment operation and maintenance procedures to ensure they are able to handle TEL products safely. To meet the needs of customers around the world, we have established training centers at various TEL sites, with approximately 80 instructors conducting training courses including practical skills needed to work on TEL equipment. We also provide web-based training and on-site training at customer sites. In fiscal 2017, we provided approximately 9,500 days of training to our customers in total.

In addition, we have introduced a certification system for our instructors in order to assure we provide high quality training. We survey participants after they complete a training course to measure their satisfaction with the training. We then use their feedback on the training programs and equipment used in order to continually improve our training system.



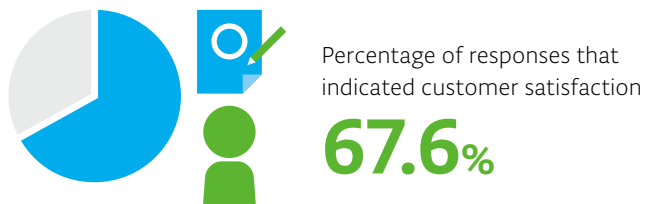
Training centers

## Customer Satisfaction Survey

TEL conducts a Customer Satisfaction Survey (TEL CS Survey) every year, with the goal of making continual improvements based on customer feedback.

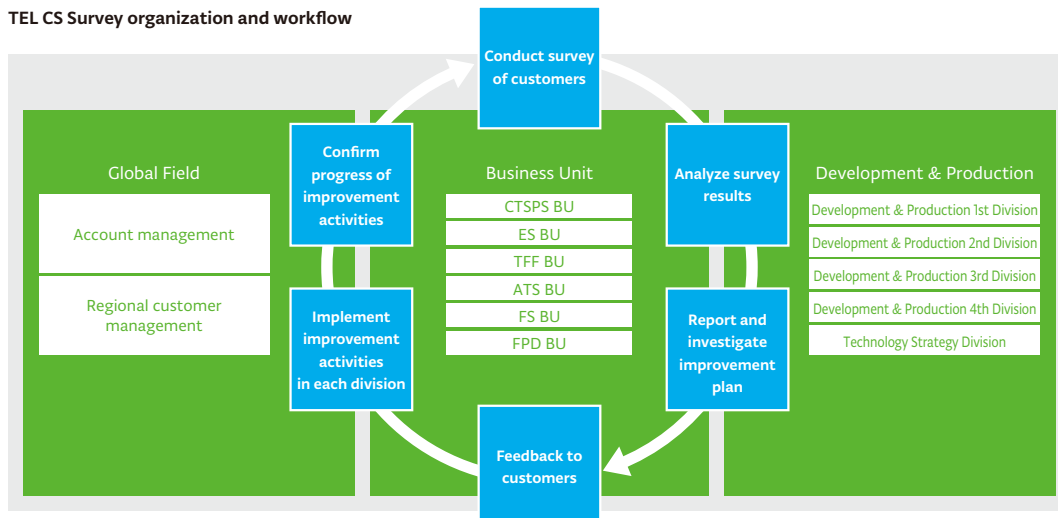
The survey started in 2003 with a limited number of departments. Since then, we have made numerous improvements to the questions, survey method, analysis, feedback to customers about targeted improvements, and overall management of the program. The survey grew to include all semiconductor production equipment departments in 2014. The FPD production equipment division and overseas subsidiaries were added in 2016 to make the survey a key organization-wide initiative. The questions are designed to allow multi-faceted analyses of customer opinions, so that feedback can directly lead to practical improvements in the sales, development and production, and service divisions.

To ensure the survey results lead to improved customer satisfaction, in 2016, we began analyzing the results by account and function (software, development, etc.) in addition to analyzing by product. Results of the analysis are used by dedicated in-house personnel to respond to each specific case and to improve our services overall. Results of the function-based analysis were used to again identify common issues related to each product. We also developed a mechanism for immediately sharing feedback with related divisions, so that we can conduct further multi-faceted analyses and accelerate our improvement activities.



In the survey for fiscal 2017, which was conducted under this new system, approximately 1,300 individual customers responded for a 61.6% response rate. On a 4-point scale, we received an average of 3 points or higher (Very Satisfied or Satisfied) on 67.6% of the questions, compared to 62% of questions last year. Through this customer satisfaction survey, we take corrective action based on the valuable feedback received from our customers, analysis results, and issues requiring improvement. We make full use of the survey to improve our services and product development, and we continually share the results of the survey and our plans for improvement with our customers. Our entire company is working to drive improvements through this customer satisfaction survey.

TEL CS Survey organization and workflow



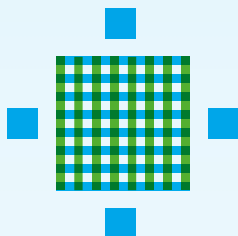
Strengthening earnings power



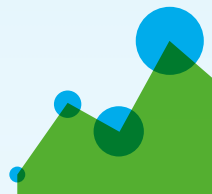
Medium-term goal

## Improve operational efficiency

Priority themes



High quality products



Increase added value of processes

Relevant SDGs



12 Responsible consumption and production

## High quality products

### Quality control system

To provide consistent, high quality products, TEL has been acquiring ISO 9001 quality management system certification at various sites since 1997 in line with its policy of making quality a top priority. Nine manufacturing sites have achieved this certification to date. In 2016, we established a uniform Group-wide Quality Policy and since then each Group company has pursued the goal of achieving the world's best quality. In 2017, we will continue to work together as one to drive quality improvements.

### Quality education

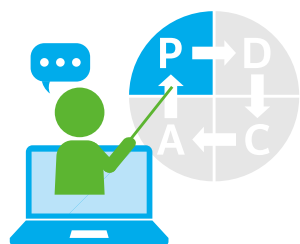
TEL believes that every employee needs to have a high awareness and understanding of quality. This is why we conduct a range of education programs including the fundamental quality education that all new employees receive.

For example, to enable employees to improve their knowledge and skills in the area of quality control, and to improve the quality of their work, we encourage them to obtain external quality certification through the QM/QC Exam (Quality Management and Quality Control Examination). Administered by the Japanese Standards Association and the Union of Japanese Scientists and Engineers, the QM/QC Exam is a major quality certification with more than 440,000 certification holders in Japan as of March 2017. Since fiscal 2012, this initiative has increased the number of certified employees each year to a total of 1,579 as of March 2017.

We also educate our employees around the world about the Plan, Do, Check, Act (PDCA) cycle. Through e-learning courses, employees learn efficient process management using the iterative four steps of the PDCA cycle. As of April 2017, 89% of our employees had completed the courses.

In addition, we have an education program called TEL 6-Step, a problem-solving model for serious problems aimed at employees in production and service divisions. This is a customized version of the eight discipline (8D) problem-solving method\* widely used in quality control. The TEL 6-step program enables systematic and reliable analysis of problems to determine the root cause, leading to quick implementation of countermeasures and prevention of similar problems. We currently use web-based training for delivery, and as of May 2017, 2,751 employees had completed the program.

\* 8D problem solving method: A method for solving problems in quality improvement through eight disciplines or processes



PDCA cycle education

**89%**  
of employees have  
participated

(As of April 2017)



TEL 6-Step

**2,751**  
employees have  
participated

(As of May 2017)

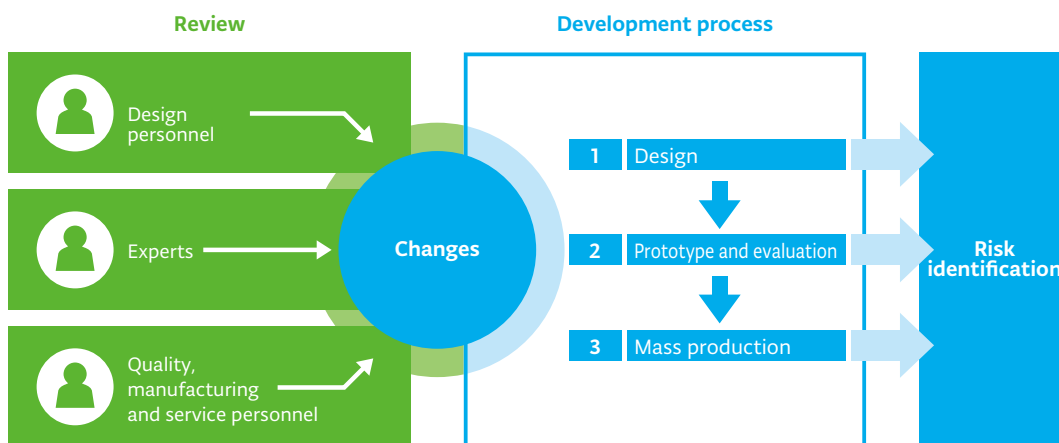
# Strengthening earnings power

## Pursuing quality at the source –GD<sup>3</sup> design review–

TEL has adopted a front-loading approach to improve product quality. Specifically, we use the GD<sup>3</sup> (GD cubed) management method of problem prevention to ensure thorough risk identification from the concept design stage. Using this method, the designer and reviewer review each stage from design and evaluation to full production and identify risks, focusing on changes from the previous designs.

When using the GD<sup>3</sup> method, we adjust techniques and work environments to improve our ability to identify risks. To achieve a high quality review, we need high quality reviewers, so we request the participation of internal experts in the review process. At the same time, our basic rule is to assign additional people from each division to identify risks from many different angles. To improve the efficiency of discussions, we have created search tools to find past instances of problems and we use mind mapping to be more imaginative in risk identification.

Not only do we ensure full implementation of the GD<sup>3</sup> review process internally, we also recommend the method to suppliers to help further enhance quality in the upstream processes.



## Safe equipment design

TEL carries out product risk assessments as early as possible in the development phase, taking the entire product life cycle into consideration. Based on the results of these assessments, we implement intrinsically safe equipment design<sup>1</sup> to reduce the risks posed to humans. We also examine and ensure compliance with increasingly challenging laws and regulations around the globe and create systems for abiding by all safety regulations of the regions where our equipment is shipped.

Equipment shipped from our factories is checked by a third-party inspection organization to ensure it complies with SEMI S2<sup>2</sup> international safety standards. For equipment requiring CE marking,<sup>3</sup> we acquire a Certificate of Conformity (CoC) issued by Notified Body (NB) stating conformity with the Machinery Directive and EMC Directive.<sup>4</sup>

1 Safe equipment design: Innovative machinery designs that eliminate causes of machinery-related hazards posed to humans

2 SEMI S2: The *Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment* is a set of guidelines for safe design of equipment. It is used mainly by the leading manufacturers of semiconductor equipment in the United States and Europe, not only for ICs but also as safe procurement guidelines for electric and electronic device manufacturing equipment around the world.

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

4 EMC Directive: One of the New Approach Directives that apply to the 27 EU member states. This directive applies to all electric or electronic devices that are at risk of being disturbed by electromagnetic interference or that may interfere with other equipment. The current directive is 2014/30/EU.

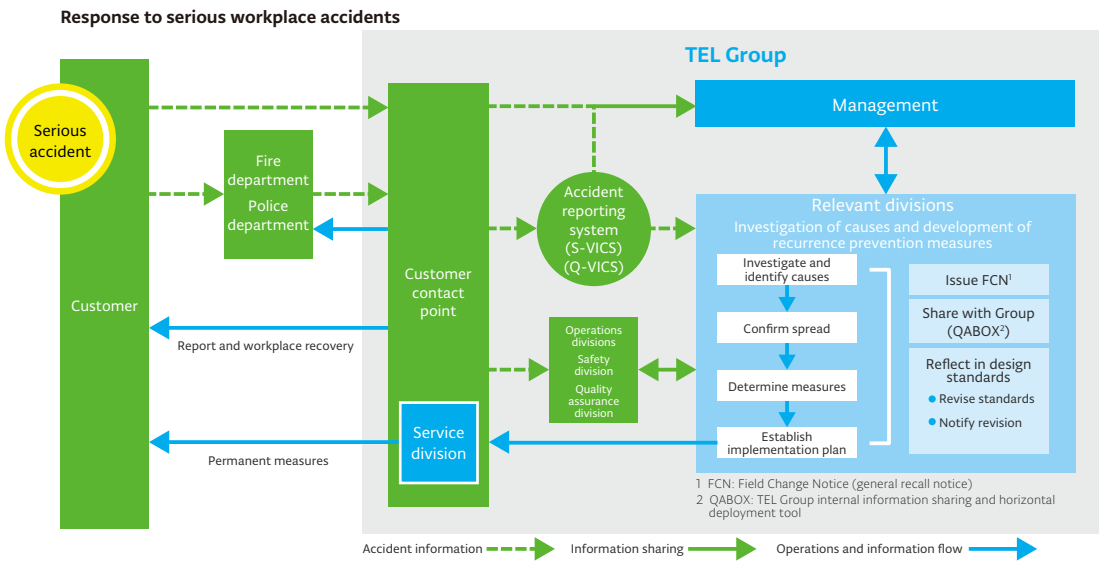
## Quality improvement cost reductions

As a key issue for enhancing earnings power, TEL implements initiatives to reduce costs associated with quality improvements that are required after equipment is shipped. Each year, we select five types of defects to prioritize for elimination, focusing on those that either result in a significant cost or occur frequently. We identify the causes of the defects, whether in the design, handling, or another area, and adjust our products based on our findings.

## Response to quality problems

TEL complies with ISO and EN safety standards, as well as establishing design rules applicable to its own equipment to achieve the highest level of safety possible.

In addition to developing systems to manufacture safe products, we fulfill our mission as an equipment manufacturer by developing systems for responding to design- or manufacturing-related issues or accidents arising from operation-related problems. If an accident occurs, we use our S-VICS accident reporting system to report and share information with all levels of management, from safety and quality personnel in each division all the way to senior management. We immediately conduct an accident investigation to identify the cause and plan preventive measures. In addition to implementing the measures on the problem equipment, we use a proprietary system called QABOX to quickly implement the measures on equipment operated by other customers and reflect those measures in design standards in operation.



## Initiatives with suppliers

Developing strong partnerships with suppliers is essential to improve product quality. Since 2000, TEL has regularly conducted Supplier Total Quality Assessments (STQA) to clarify what is expected of suppliers in terms of maintaining and improving quality.

Before starting business with new suppliers, an STQA is conducted via self-assessment to evaluate their product quality, costs, and information security. The assessment also includes CSR issues, including human rights, ethics, safety, and the environment. If any risks to quality are found, our trained and certified auditors visit the supplier on-site to explain the problems, our expectations for improvement, and the level of quality we require. After the supplier understands the issues, we ask that they plan and implement improvement measures in line with our written requests. We keep track of all requests and improvement measures internally, and offer continual support to suppliers until all necessary improvements have been made. We conduct on-site audits once every three years at suppliers who manufacture important components and at suppliers where quality issues have been found.

We focus on change control with our suppliers. We aim to reduce the number of quality issues that occur as a result of changes to the design or manufacturing of equipment components and modules. We also aim to reduce the cost of quality improvements. We use change control briefings to inform suppliers of the requirement to submit a request when changes are made. We have been conducting web-based training since 2015 to get more suppliers to understand the importance of change control in respect to quality and to ensure they submit the required change requests. Approximately 900 people participated in this training during fiscal 2017.

## SQIP defect prevention activities

TEL works with suppliers to implement the Supplier Quality Improvement Program (SQIP), a series of activities designed to prevent defective components. The SQIP aims to visualize the root causes of problems (defect factors) and encourage independent defect prevention activities by asking each of our suppliers to explore defects that have occurred in the past. Through this process, the program aims to reduce the number of defects by half.

Our suppliers use the self-assessment of their quality control systems to analyze closely the source of previous problems in their manufacturing environments, whether in ordering, design, production, inspection, or training. This helps them to identify weak points and make improvements to systems or work methods.

## QC Patrol

Component module manufacturing processes have a strict requirement for accuracy. Processes like crimping work, soldering work, and terminal block connecting work have a significant impact on the safety and service life of our equipment, yet, from the outside, it is not immediately obvious whether they have been done correctly. We treat such processes as important tasks. In our suppliers' production facilities, our systems ensure that these tasks are performed by skilled employees who have passed tests conducted by TEL-accredited trainers. Our quality and manufacturing division personnel also visit our suppliers as part of our QC Patrol activities to check on the quality of their work. In addition to this, our technology and quality personnel join forces in a separate QC Patrol activity to inspect channel welding work and inspect for leaks and cleanliness of gas components.



## Increase added value of processes

### Company-wide business process re-engineering

As one of the key issues in the medium-term management plan, TEL is working to increase profits by improving the efficiency of its operations. To achieve this aim, each business unit and overseas subsidiary is re-engineering its business processes. They are working to acquire the necessary data and information for management decisions and business operations more quickly and accurately by optimizing business processes, creating standards where necessary, and optimizing those processes across the whole company.

We have gathered experts from across our production, sales, logistics, services, accounting, and business management divisions around the world. Together, we are currently conducting a multi-faceted review of our business processes, including vertical processes within each division, horizontal processes across different divisions and functions, and customer-related processes such as ordering, production, shipping, and acceptance. We plan to incorporate the results of this review into new core IT systems, and we will start a phased rollout with a view to full utilization by 2019. By creating a business platform from new core systems that take into account the entire value chain, including other divisions and customers, and at the same time eliminating waste, we aim to become a company that can drive efficient businesses based on highly-accurate business predictions, while making strategic use of our human resources, material, capital, and information.

### Quality and productivity improvement through TPM

TEL has been implementing company-wide Total Productive Maintenance (TPM) for over 10 years. The purpose of TPM is to eliminate inefficiencies, waste, and loss, and thereby improve productivity. At the same time, it aims to change employees thinking and behavior. The TPM approach plays a role in employee development and has been successfully integrated into our production lines. Promoted in cooperation with design and administration divisions, the synergistic effects improve both quality and productivity. TPM is also being used to improve business process quality between indirect divisions. TPM activities that have produced outstanding results are shared company-wide at the annual TPM presentation, with a Grand Prize and other awards to help motivate employees in their activities. From fiscal 2016, participants included not only teams from Japanese manufacturing sites, but from our overseas site Tokyo Electron (Kunshan) Limited (established in 2012) as well.



TPM presentation

# Invigorating people and workplaces



## Medium-term goal

### Maximize dreams and drive

#### Priority themes



Human rights and diversity



Work-life balance



Health

#### Relevant SDGs



3 Good health and well-being



8 Decent work and economic growth

## Human rights and diversity

### Human rights

TEL recognizes the importance of respecting human rights in all aspects of business activities. Our principles for respect for human rights are established in our Management Policies and Code of Ethics prohibiting discrimination based on gender, nationality, age, race, creed, or religion; forced labor, child labor, and harassment. The Group aspires to create a pleasant workplace environment where everyone can work free of discrimination by implementing employee training and establishing hotlines for prompt awareness and resolution of activities related to human rights issues.

### Workstyles of a diverse workforce

#### Active involvement of women

##### Action plan

With business operations across the globe and with overseas sales accounting for more than 80% of total sales, TEL continues to develop work environments for a diverse workforce.

Based on the Act on Promotion of Women's Participation and Advancement in the Workplace, we have developed and implemented an action plan to promote the active involvement of female employees by 2019. The action plan lists two goals for improving work conditions for both women and men: achieve a 70% take-up rate of annual paid leave, and prevent harassment in the workplace.

As a result of efforts encouraging employees to take leave, the take-up rate of annual paid leave in fiscal 2017 was 64.1%.<sup>1</sup> These efforts included understanding how much leave was being taken, raising awareness for the planned use of leave, and regularly monitoring how much leave was used. Meanwhile, the development of regulations was central to the efforts for preventing harassment. Some subsidiaries also took steps to establish and raise the profile of help desks and advisors, as well as reviewing and conducting effective training and education.

<sup>1</sup> Group companies in Japan

##### Technology conference for women engineers

In February 2017, a technology conference for female engineers was held as an event to support female employees. On the day, five female engineers from different areas of the company gave presentations on their own areas of specialization and their own work styles. This event was an opportunity for the all-female audience to learn about the various roles in our company, as well as address their worries and provide advice for their future careers. About 90 female employees participated in the conference, with a teleconferencing system used to link our Akasaka headquarters with our factories and offices throughout Japan.

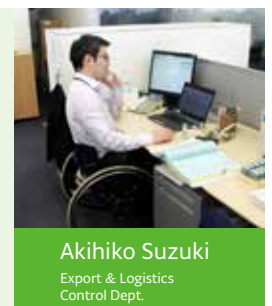
#### Active involvement of people with disabilities

TEL seeks to be a corporation where a diverse range of employees can work to their full potential. We have established an inclusive working environment for people with disabilities. People with disabilities account for 2.13% of employees at TEL headquarters and 1.98%<sup>2</sup> of employees in Japan operations overall.

<sup>2</sup> As of March 31, 2017

#### Employee voices | Active involvement of employees with disabilities

I joined TEL in 2015, and currently I am in charge of approval work for the export of parts. I commute to work by car, which is less stressful for me, and TEL has given thoughtful attention to my work setup. For instance, the document cabinets are at an easy height for me to use, and my desk has been placed close to the exit so that it is easier for me to get around in my wheelchair. What pleases me most about TEL is that I am treated the same as a person without disabilities. For example, during the recruitment screening process, I felt that I was being assessed on my skills and experience. Going forward, I will continue to work hard in order to meet the company's expectations.



**Akihiko Suzuki**  
Export & Logistics  
Control Dept.

## Work-life balance

### Workstyle reform

TEL is working to introduce a new personnel system aimed at supporting its vision to become “a real global company generating high-added-value and profits,” as part of the medium-term management plan. The system is designed to enable each employee to challenge themselves to meet their goals without fear of failure, and to provide fair evaluations proportionate to individual levels of contribution. Based on the idea that raising the engagement<sup>1</sup> of employees is essential for sustained growth of our company, the new system also aims to create a rewarding workplace environment where employees can challenge themselves to achieve higher goals with widening global career opportunities. The new personnel system specifies new ways of working, such as clarifying roles and expectations, enabling employees to work more autonomously with challenging goals linked to the company’s vision, and rewarding eagerness and voluntary effort important for increased motivation. Rating, evaluation, and remuneration will be built as common global systems, enabling us to share objectives and goals among employees worldwide. This new system will become part of standard operations in fiscal 2018.

<sup>1</sup> Engagement: A constant feeling of pride, passion and a sense of responsibility in one’s own work and a desire to work hard to achieve results

#### Features of the new personnel system

- **Rating system**

The system clarifies duties (the roles and responsibilities required of the employee) supporting a global way of working

- **Evaluation system**

The system is designed to establish performance goals appropriate to employee level and stretch goals designed to develop the employee, and it assesses the employee based on achievement of (or contribution to) those goals

- **Remuneration system**

In addition to a level of remuneration that is competitive in the market, the system provides the employee with career opportunities as well as a productivity-linked bonus proportionate to their degree of achievement (contribution)

### Refreshment leave

TEL has a refreshment leave system that offers a special paid leave every five years to regular employees with 10 or more years of continuous service. Refreshment leave ranges from two weeks to one month.<sup>2</sup> The purpose is to renew employees’ eagerness to work, encouraging them to refresh their body and mind. In fiscal 2017, 586 employees in Japan took refreshment leave.

<sup>2</sup> Employees with 10, 15, 20, and 25 years of continuous service can take a leave of two weeks, three weeks, two weeks, and one month, respectively

### Systems supporting flexible workstyles

TEL is committed to reducing overtime, encouraging employees to take time off, and improving the various leave systems. In this way, we allow employees to adopt a flexible approach to work according to their individual lifestyle and stage in life. Amid a declining birthrate and aging population, we are focused on enhancing our childcare and nursing care leave systems, enabling all employees to develop their careers.

Our childcare support system in Japan allows employees to extend their leave until their child turns three. Also, we give parental guardians an option of taking reduced work hours until their children finish elementary school, which goes significantly beyond the legal requirement. As a result of these measures, 44 employees (including two male employees) took childcare leave in Japan operations in fiscal 2017, and 44 (including two male employees) returned to work after taking childcare leave in previous years for a 93.6% return rate. About 35% of female TEL employees in Japan are successfully balancing work and family as working mothers.

## Leave and other support systems for childcare and nursing care

System	Overview	Eligible employees	Notes
<b>Relief for commuting difficulties</b>	Allows work start times and finishing times to be moved forward or back by a maximum of one hour each day	Pregnant female employees who are under instruction from their doctor	As per the legal requirement
<b>Childcare leave</b>	(1) Allows leave to be taken up until a requested date but no later than the end of April after the child turns 18 months of age (2) If the child cannot gain admission into a nursery school, leave may be extended from the end of April after the child turns 18 months of age until the child turns three years of age (i.e. the day before their third birthday)	Employees with a child who will be less than 18 months of age at the end of the following April	More than the legal requirement (up to a maximum of three years of age)
<b>Childcare time</b>	Allows an employee to request time to care for their infant for two 30-minute periods per day, in addition to prescribed rest periods (treated as paid leave)	Female employees with an infant under one year of age	More than the legal requirement (paid component)
<b>Flexitime for childcare and nursing care</b>	Allows work start times and finishing times to be moved forward or back by a maximum of 90 minutes per day	Employees with a child who has not graduated elementary school, or who are caring for a family member requiring nursing care	More than the legal requirement (up until the child finishes elementary school)
<b>Leave to care for a sick/injured child</b>	Allows leave to be taken for up to a maximum of five days for employees with one child, and 10 days for employees with two or more children, per business year (up to five days treated as paid leave)	Employees with a child not old enough to commence elementary school	More than the legal requirement (paid component)
<b>Childcare support leave</b>	Special leave to care for a child for up to a maximum of five days per business year (unpaid)	Employees with a child not old enough to commence junior high school	Unique system
<b>Short nursing care leave</b>	Allows leave to be taken for up to a maximum of five days for employees with one family member requiring nursing care, and 10 days for employees with two or more family members requiring nursing care, per business year (up to five days treated as paid leave)	Employees with a family member requiring nursing care	More than the legal requirement (paid component)
<b>Extended nursing care leave</b>	Allows an extended period of leave to be taken for up to three times per person requiring care, up to a maximum of one year in aggregate	Employees with a family member requiring nursing care	More than the legal requirement (up to one year of leave)

### Employee voices | Childcare leave for men

I took 17 months of childcare leave from September 2015 to February 2017. This was due to several reasons: my strong, long-standing desire to be involved with my children, a desire to help my wife return to work as a freelance piano teacher, and the problem of waiting for admission to a nursery school.

Seeing as it is still uncommon for male employees to take long-term childcare leave, my supervisor was surprised at first, but happily accepted my temporary departure. People around me were also concerned about me taking leave for such a long time, but in the end, I was allowed to return to the same marketing work as before. I am extremely grateful for this. I would be glad if the option of taking childcare leave continues to be afforded to male employees. I plan to take the joyful experience of spending many days close to my newborn, and apply it to my work and life in the future.



**Masahiro Atsumi**  
Marketing Department 1, TFF

## Human resource development

### TEL UNIVERSITY

To enhance its HR development and organizational capabilities, TEL has established a corporate educational institution called TEL UNIVERSITY. The curriculum includes courses that provide world-class knowledge and skills, training programs for next-generation leaders, and courses for developing managerial and organizational capabilities.

### Main activities in fiscal 2017

With career level-specific programs, TEL has started “step-up” activities for junior employees. These employees set their own work theme, establish challenging targets, plan ideas for related activities, and accomplish work with their supervisors and colleagues. These “step-up” activities provide opportunities for learning and awareness with the aim of nurturing independency at work within two years of joining the company.

In these purpose-specific programs, TEL experts lead a wide variety of workshops to share specific knowledge within the company. Other efforts this year included using our internal skills and talents to make improvements to new hire training and to promote completion of e-learning and correspondence courses designed to develop skills needed for the work environment (including language skills).

Life design seminars have also been held every year, targeting employees eligible for retirement. The programs provide knowledge and information necessary to prepare for leaving work, such as pre-retirement preparation and post-retirement financial planning. They include seminars with a number of Q&A-type sessions to help dispel doubts and anxiety about retirement.

### TEL UNIVERSITY Programs (Fiscal 2017)

	Number of participants
New hire training (full year)	71
Junior employee programs	310
Manager programs	78
Business leader programs	60
Workshop for engineers	333
Technical seminars	735
Business skills programs	807
Practical English courses	306
Life design seminars	220

## Visionary Talks

Since 2015, TEL has hosted internal events called “Visionary Talks.” In these seminars, we invite experts and specialists from various fields to speak freely on their vision for the future.

The event is a great opportunity for employees to expand their creativity and imagination for envisioning the future, by allowing them to hear the experiences and feel the enthusiasm and conviction of leading figures in a variety of fields, including science, technology, art, and sport. At Visionary Talk 2016 in November, five guest speakers were invited to our headquarters in Akasaka, Tokyo. The talk was attended by 200 employees in person and streamed to our offices in Japan, Korea, China, Taiwan, and Singapore, providing more than 900 employees with flashes of inspiration for the future. Visionary Talk also serves as an opportunity for collaboration with external parties in research and development in areas such as artificial intelligence.

## Health

### Wellness declaration

In February 2012, TEL announced its wellness declaration based on the view that the health and safety of employees is paramount. In accordance with this declaration, we have conducted a number of ongoing wellness initiatives, including the establishment of health help desks, the provision of counseling services, and the introduction of stress checks. We also offer walking events, healthy food choice initiatives for company cafeterias, and body composition measurement sessions.

Since 2016, we have promoted the improvement of employees’ exercise habits. At nine of our factories and offices in Japan, we are developing an Eat-Rest-Walk-Talk program, which proposes that employees spend every day in a healthy way, incorporating some kind of regular exercise into their daily activities.



- **Eat**  
Three balanced moderately-sized meals every day
- **Alcohol in moderation**  
Two days every week without alcohol
- **No smoking**  
Quit now for your future



- **Sleep**  
Recharge through quality sleep time
- **Rest**  
Vary the pace of your day to improve efficiency



- **Walk**  
Target 10,000 steps every day
- **Climb**  
Use the stairs at work
- **Enjoy**  
A change of mood through a hobby



- **Understand**  
Have a health check every year
- **Talk**  
Talk with others rather than dwelling on a problem alone

### Stress checks

Since being mandated by law in December 2015, TEL has offered stress checks to employees at each factory and office in Japan. Employees complete a questionnaire recommended by the Ministry of Health, Labour and Welfare, and if judged to be under high stress, they are given face-to-face support by a public health nurse or occupational health physician. The stress check conducted in July 2016 was taken by about 90% of employees.

### Introduction of the Pep Up healthcare platform

As part of the national requirement for new health management systems, TEL actively promotes activities for improving employee health based on collaboration between employers and health insurance societies. In 2016, we introduced the Pep Up personal healthcare platform. By using this system, individual employees can easily check health information such as the results of their medical checkups and itemized details of their medical expenses. The various support offerings also include enabling employees to record their daily health management data (weight, blood pressure, body fat ratio, length of sleep, etc.) as well as recommended activities to suit their state of health (walking and running events, fitness centers, etc.). In collaboration with the health insurance society, we will continue to push for a broader user base of Pep Up, raising the health awareness of employees.

## TEL's social contribution activities

TEL conducts social contribution activities around the world. Through various initiatives, we strive to build solid, trustworthy relationships with community members to help develop local communities and resolve social issues at the global level. In this, we will develop a rich, dream-inspiring society and enhance our corporate value.

### Initiatives around the world

With Innovation and Technology, Education, Environment, and Community Involvement as the four focuses of our social contribution, we conduct activities that best meet the requirements of each locality.

#### 9 INNOVATION AND TECHNOLOGY AND INFRASTRUCTURE Innovation and Technology: Semiconductor scholarship (Korea)

Through a program run by the Korea Semiconductor Industry Association (KSIA), an organization that focuses on developing human resources in the semiconductor sector, TEL granted scholarships to outstanding students recommended by universities. One student is



selected every year and awarded the scholarship on Semiconductor Day. This year marks the ninth occasion since 2008.

#### 4 QUALITY EDUCATION Education: SEMI High Tech U (U.S.)

A High-Tech Career Exploration Program was held at the Austin office in the United States, where students could have fun experiencing cutting-edge technologies with practical applications. About 30 local high school students participated in the program, which featured educational materials provided by SEMI, a global industry association serving the electronics industries, and interacted with employees from our Austin office over the three-day period.



#### 13 CLIMATE ACTION Environment: Tree-planting activities (Japan)

Tokyo Electron Technology Solutions' Tohoku Office has been planting trees in nearby sites. In 2016, about 700 oak seedlings and five memorial cherry trees were planted. Two hundred and seventy employees



and family members participated in the event, providing an opportunity for workers and their families to deepen their friendships with each other.

#### 17 PARTNERSHIPS FOR THE GOALS Community Involvement: REWE Team Challenge (Germany)

Twenty employees teamed up with clients to participate in a 5 km charity marathon run through the city center of Dresden, strengthening the ties between them.



### Kumamoto Earthquake relief efforts

TEL actively provided a wide range of support to those affected by the April 2016 Kumamoto Earthquake to help bring stability to their lives and restore their communities as soon as possible.

#### Relief supplies and livelihood support

Amid the tremendous damage to the transportation infrastructure, TEL made full use of its trucks and warehouses to swiftly deliver daily necessities, water, food and other goods from across the country. At the affected areas, we offered our recreational facilities as support bases and evacuation centers and provided assistance activities to employees and local communities.

#### Donations

A total of 100 million yen in donations was presented to Kumamoto Prefecture.

#### Matching donations

To support efforts aimed at matching funds for reconstruction, TEL matched donations collected from employees around the world. The donations were distributed to affected employees, and emergency supplies were donated to surrounding municipalities.

#### Charity concert

A charity concert was held with the hope of using music to raise the spirits of those affected by the disaster. Employees and volunteer staff worked to transform two gymnasiums of local junior high schools into concert halls. For two days, the concert was enjoyed by 1,600 students, local residents, and employees and their families.



Establishing a sustainable management foundation



Medium-term goal

## Build a management foundation for increasing value

Priority themes



Corporate governance



Safety management



Environmental management



Supply chain management

Relevant SDGs



**8** Decent work and economic growth



**13** Climate action



**16** Peace, justice and strong institutions



## Corporate governance

### Governance framework

[URL www.tel.com/ir/policy/cg/index.htm](http://www.tel.com/ir/policy/cg/index.htm)

TEL has a medium-term vision of becoming “a truly global company generating high-added-value and profits through innovative technologies and groundbreaking solutions with diverse integrated technologies.” We believe it is important to build a governance framework that supports our medium-term vision.

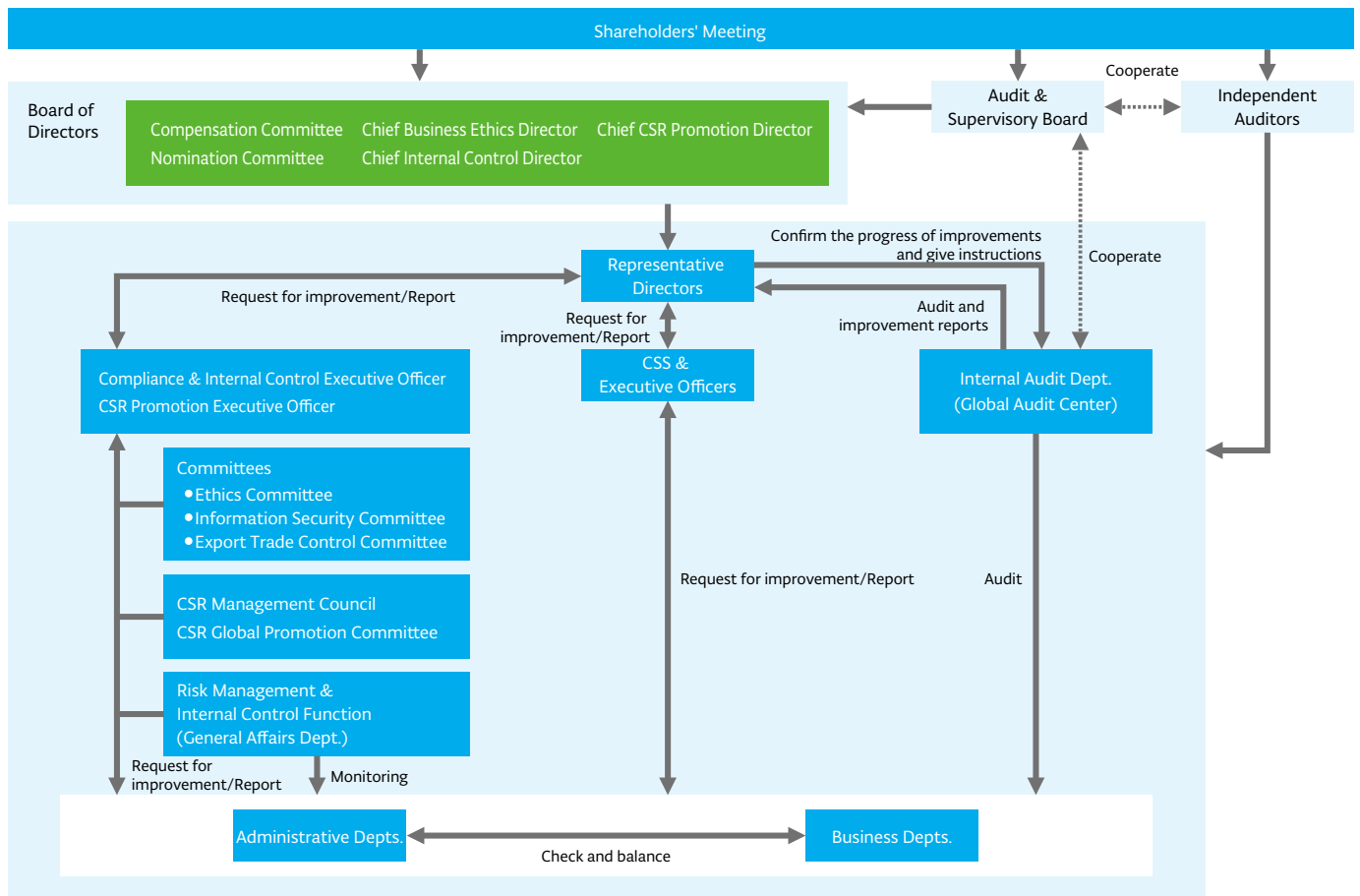
Our governance structure consists of a Board of Directors and an Audit & Supervisory Board. Effective governance is achieved through the supervision of management by the Audit & Supervisory Board. Based on this organization structure, we have also established systems that will facilitate growth-oriented governance directed at sustainable growth, including the following.

- The Board of Directors: to make major operational decisions and play a supervisory role in the execution of those decisions
- The Nomination Committee and Compensation Committee: to ensure fair, effective, and transparent management
- Corporate Senior Staff (CSS): to formulate and advance company strategy

Directors work to achieve sustainable growth and increase corporate value over the medium to long term based on their fiduciary responsibility to shareholders. The current Board of Directors meetings achieve an appropriate sense of productive tension and constructive debate due to the combined presence of executive directors, essential for making operational decisions, and outside members, who provide objectivity.

The Audit & Supervisory Board is part of a structure that enables its board members to obtain sufficient information necessary for audits by collecting information through on-site surveys conducted by full-time Audit & Supervisory Board members, and by maintaining appropriate coordination with the Internal Audit Department and independent auditors. In addition, the composition of Audit & Supervisory Board members provides a good balance of knowledge required for operational audits and accounting audits, and we believe these board members are able to perform the company’s auditing functions effectively.

### Corporate governance framework, internal control system and risk management system



## Evaluating the effectiveness of the Board of Directors [URL www.tel.com/news/2017/0512\\_004.htm](http://www.tel.com/news/2017/0512_004.htm)

TEL discusses and evaluates the effectiveness of the Board of Directors every year in accordance with the TEL Corporate Governance Guidelines. Following is a summary of the evaluation conducted on the effectiveness of the Board of Directors for the period June 2016–April 2017.

### 1. Method of evaluation

A survey on the effectiveness of the Board of Directors, the Nomination Committee, and the Compensation Committee was given to all directors and Audit & Supervisory Board members. Opinions on the effectiveness were exchanged and discussed among mainly outside directors and outside Audit & Supervisory Board members before being shared with the entire Board of Directors where the effectiveness was evaluated.

### 2. Results of analysis and evaluation

At Board of Director meetings, the CEO and executive directors present periodic reports. In addition, discussion topics are set on any issues concerning the Board of Directors. These topics are keenly debated by directors and Audit & Supervisory Board members based on their diverse insight and experience. Draft proposals presented by executive management are fully discussed by the Board of Directors after receiving feedback from outside directors and outside Audit & Supervisory Board members. As a result, some proposals are passed as draft amendments and are subject to a free and open-minded exchange of views and substantive discussion.

Based on recognition of this situation, we believe that our Board of Directors is functioning effectively and fulfilling its role as stipulated in the TEL Corporate Governance Guidelines.

### 3. Challenges and policies going forward

We will increase the amount of quality time spent discussing our Group's direction and strategies, including any important management issues, as well as our medium- to long-term management and growth strategies. Based on this year's evaluation of effectiveness, we will also strive to further improve the effectiveness of the Board of Directors, including enhancing opportunities for outside directors and outside Audit & Supervisory Board members to exchange their views. In addition, the Board of Directors will continue to discuss and review its composition and operation based on diversity.

## Business ethics and compliance

### Compliance system

TEL has formulated the Code of Ethics of the Tokyo Electron Group as a set of uniform standards to govern all of its global business activities. As well as appointing a Chief Business Ethics Director, we have established the Ethics Committee comprised of the Chief Business Ethics Director, the Ethics Committee Chairman, and presidents of major Group companies in and outside Japan, and are making every effort to promote business ethics awareness throughout the Group.

In addition, we have appointed a Compliance & Internal Control Executive Officer from among our executive officers to raise awareness of compliance across the Group and further improve Group-wide compliance. Each Group company has also drawn up its own compliance regulations, setting out basic compliance-related requirements in line with the Code of Ethics. The compliance regulations are intended to ensure that all individuals who take part in the business activities of the Group clearly understand the pertinent laws and regulations, international standards and internal company rules, and consistently apply these rules in all of their activities.

## Compliance education

Through the TEL Group's e-learning system, we provide the web-based training programs covering the basics of compliance, export-related compliance, protection of personal information, the Act for Subcontracting and other topics. All executives and employees are required to complete these programs. In addition, other web-based programs tailored to specific positions and job roles are available, including those on insider trading and the Social Security and Tax Number System.

We also have a quiz-based business ethics and compliance education course, launched in fiscal 2014, for all Group executives and employees. Updated yearly, the quiz is intended to maintain compliance awareness throughout the Group and disseminate the latest information.

In addition to these web-based courses, we organized in-house seminars in fiscal 2017 for Corporate Directors and executive officers on the subjects of compliance and internal control.

## Internal reporting system

The TEL Group has an internal reporting system that employees can use to report any activity suspected of being in breach of laws, regulations or business ethics. An ethics hotline and a compliance hotline have been established to receive reports from all Group companies, and each overseas location also has its own reporting system. In all instances, the system ensures that whistleblowers remain anonymous and are protected from any disadvantage or repercussions. There were no reports or cases of non-compliance with laws, regulations, or the Code of Ethics in fiscal 2017 that could have had a material impact on the Group's business or local communities.

## Internal control system and risk management

### Risk management system

To more effectively strengthen the internal control and risk management systems of the entire Group, TEL has established a dedicated risk management and internal control function within the General Affairs Department of the corporate headquarters. This function analyzes the risks faced by the Group and identifies material risks. It then monitors the management of such risks while supporting and implementing risk management activities. The function also regularly reports the status of risk management activities to the Audit & Supervisory Board Members and the Board of Directors. In fiscal 2017, the Group reassessed the material risks in its operating environment. For each risk determined to be material, the status of risk management at the responsible divisions was reconfirmed. Going forward, we will continue these initiatives to enhance the efficacy of our risk management framework.

### Auditing by the internal audit department

The Global Audit Center of the corporate headquarters is the TEL Group's internal audit department. This Center is responsible for auditing business activities, compliance and systems at domestic and overseas Group companies and business units (BUs) in accordance with each fiscal year's auditing plan. The Center also annually evaluates the effectiveness of the Group's internal control over financial reporting based on the Financial Instruments and Exchange Act of Japan. At operating divisions where issues have been identified through audits and assessments, the Center monitors progress and provides necessary guidance for improvement.

## Information security management

To ensure appropriate management of information assets, TEL has an information management framework centered on its Information Security Committee, which is composed of representatives from departments within the Group.

Based on the policy of the Information Security Committee, rules of the protection and control of confidential information and personal information are regulated. Employees and executives understand the regulations through an e-learning system.

Additionally, we have a reporting system for both actual and potential cases (incidents) of information leakage. Reported cases are quickly settled and analyzed. In accordance with the analysis, reoccurrence prevention measures are implemented throughout the Group.

In order to mitigate emerging cyber security threats, we examine and undertake rational countermeasures as necessary. We also have in place systems to detect targeted threats that utilize social engineering as well as a supervisory framework to prevent damage.



## Business Continuity Plans (BCPs)

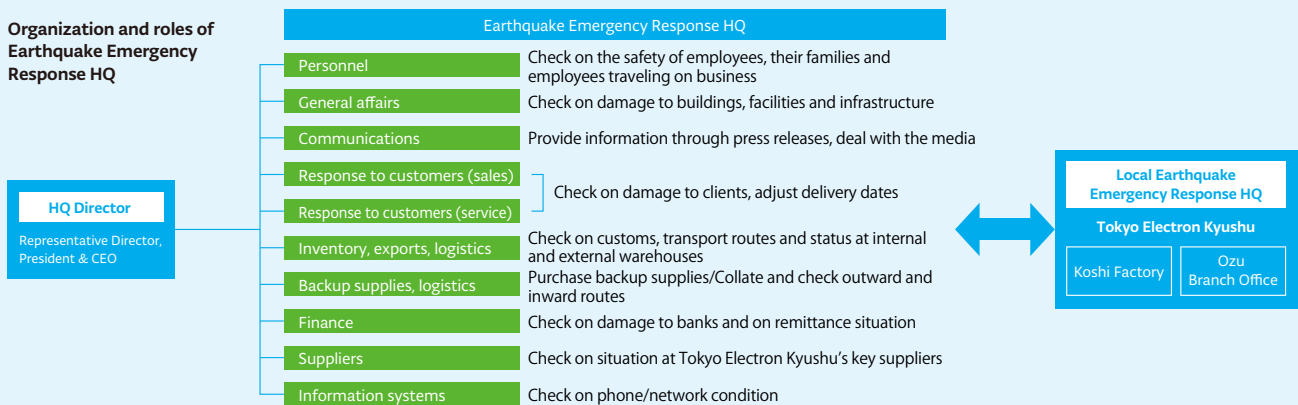
The TEL Group began building business continuity plans in 2003. After the Great East Japan Earthquake, we rebuilt these plans to be more effective and include provisions for restoring operations after crises, focusing on major business sites. Specific initiatives include preparations for disasters such as stockpiling emergency supplies (including food and drinking water), reinforcing essential infrastructure, rebuilding the safety confirmation system, creating manuals, and implementing drills and employee training. Furthermore, to meet our responsibilities as an equipment manufacturer, we pursue ongoing efforts to improve our BCPs, including taking steps to facilitate early recovery and alternate production.

### Feature | Response to the Kumamoto Earthquake

When the Kumamoto Earthquake struck in April 2016, the Group was able to respond with speed and precision based on the BCP it had prepared. Our safety confirmation system was activated at the time of the foreshock at 9:26 p.m. on April 14, and Earthquake Emergency Response HQ was established at our Akasaka Headquarters at 9:50 p.m. Furthermore, in coordination with Tokyo Electron Kyushu, which has business in the affected area, we made efforts to provide support to the earthquake victims and facilitate early recovery of business activities. By May 10, we had held 17 meetings to discuss measures for dealing with the disaster. In addition to working to restore our own affected buildings and facilities, we also provided support to our customers and suppliers in the affected areas. As a result of these activities, we were able to continue business without notable problems.

Currently, we are making further improvements to our BCPs by reviewing our response to the Kumamoto Earthquake and recognizing new problems, such as unanticipated damage to equipment.

#### Organization and roles of Earthquake Emergency Response HQ



## Safety management

### Safety management framework

To ensure the safety of its employees, customers, and all others involved in its business operations, TEL places a strong focus on preventing work-related accidents.

At each factory and office, monthly safety and health committee meetings are held to discuss safety monitoring and to manage any workplace safety or employee health issues. In addition, representatives from appropriate departments monitor safety performance at least once per month at each manufacturing site as part of an overall systematic effort to solve problems.

We use a management system based on OHSMS<sup>1</sup> to identify and analyze potential workplace hazards. The knowledge obtained from this system is shared throughout the company. Before starting work, all employees discuss the risks involved and the required actions to prevent mistakes. The group leader oversees the work at all times to eliminate any unsafe conditions or behavior that could lead to accidents. In addition, whenever employees become aware of a lack of preparation or an unexpected event during a task, they are encouraged to stop work and take any necessary corrective action. Safety managers also regularly give advice on how to manage hazards, further raising worker safety awareness.

<sup>1</sup> Occupational Health and Safety Management System (OHSMS): A management system to reduce the potential risk of work-related accidents and improve the overall level of safety and occupational health. Based on the policy set by senior management, a series of Plan, Do, Check, Act processes for safety and occupational health management are drawn up and implemented on the employees' own initiative.

### Safety education

TEL promotes the creation of safe workplaces by implementing two education programs globally. Our program on basic safety targets all employees and is provided as introductory training for new hires as well as refresher training every third year of employment. In total, more than 40,000 employees have completed this program. Our other program, advanced safety, targets employees working in clean rooms and on production lines, and must be completed every year. To eliminate accidents, we also provide risk assessment training and 13 additional web-based training courses<sup>2</sup> at offices and factories in Japan and overseas. Risk assessment training has been statistically shown to help eliminate accidents. Finally, we also provide safety information to suppliers as part of our support for initiatives to prevent accidents.

<sup>2</sup> 13 web-based training courses: preventing equipment confusion; preventing falls from openings; stop work authority (SWA); preventing being caught in a drive unit; preventing work-related back pain; pointing and calling; preventing exposure to liquid chemicals; work safety rules; detailed work safety instructions; rules for accident reporting; assessing risks; measures against ergonomic incidents; and criteria for SWA

### Initiatives for safety

TEL is committed to improving buildings and facilities to increase workplace safety. In 2016, we upgraded emergency exits at four key factories in Japan. The aim of the upgrades was to make plants even safer by making evacuations easier. This included designing aisles and passageways so that people can always tell where exits are and building doors so that they can be easily opened even by persons with limited manual dexterity.

We maintain a high priority on creating safe workplaces, including programs such as promoting safety management and safety education. Accident-related indices have been maintained at or below target, with a total case incident rate<sup>3</sup> of 0.28 in fiscal 2017.

<sup>3</sup> Total case incident rate (TCIR): the number of workplace accidents per 200,000 work hours



## Environmental management

### Environmental management system

TEL has operated environmental management systems based on ISO 14001 since 1997, especially at its manufacturing subsidiaries. In 2016, we acquired multi-site ISO 14001 certification for our factories and offices in Japan that had previously acquired certification separately. Also, along with adhering to the 2015 revisions, we identified overall internal and external issues and stakeholder needs and expectations in relation to the environment. We set the following as our risks and opportunities to address: (1) environmental management by reducing the environmental impact of our business activities, (2) compliance with applicable laws, and (3) enhancing product competitiveness with the environmental contribution of products. During fiscal 2017, we established approximately 100 environmental goals across the entire Group and carried out these improvement activities. We plan to expand this setup to each of our sites in Asia.

### Initiatives to prevent global warming and save energy

Each TEL factory and office has an established goal of reducing energy consumption by at least 1% year-over-year. Initiatives to achieve this goal include energy-saving clean room operation, appropriate temperature settings for office cooling and heating, and the introduction of highly energy-efficient equipment. Tokyo Electron Miyagi, for instance, achieved more energy-efficient operation by installing a turbo refrigerator, resulting in a reduction of energy consumption. It set an environmental goal of reducing the power consumption of its turbo refrigerator by an average of 20% in the first half of fiscal 2017, by an average of 30% in the second half, and by an annual average of 25% (year-over-year). Tokyo Electron Miyagi achieved its goal with an average 22.6% reduction in the first half, an average 34.8% reduction in the second half, and a 26.3% reduction across the full year.

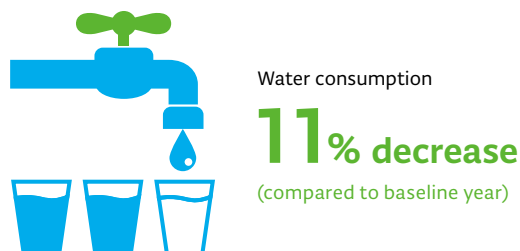
In addition, LED lighting has been installed at our factories and offices in Japan, and photovoltaic power generation systems have been installed at some of these sites, generating 4,436 MWh of renewable energy in fiscal 2017. Tokyo Electron U.S. Holdings in the United States has also been actively engaged in activities including the ongoing purchase of green power, 3,334 MWh in fiscal 2017.

As a result of these initiatives, power consumption was 253 GWh in fiscal 2017, down 0.4% year-over-year; and CO<sub>2</sub> emissions from energy consumption\* were 141 kilotons, down 4.3% year-over-year. Goals were also achieved at seven of our 11 worldwide factories and offices that had reduction goals.

\* In calculating CO<sub>2</sub> emissions, the emission factor for TEL's electricity consumption in Japan in fiscal 2017 was substituted by adjusted emission factors for the electrical power providers concerned. The emission factor for TEL's overseas electricity consumption was substituted by estimated factors calculated by the Federation of Electric Power Companies of Japan based on values published by the International Energy Agency (IEA).

### Initiatives to reduce water consumption

TEL has established a goal of keeping water consumption at the same level or below that of the baseline year (fiscal 2012 for factories and offices in Japan and a fiscal year of their choosing for each overseas operation). In fiscal 2017, we achieved 10 of the 14 goals at our sites worldwide. Continued efforts to achieve these goals include installing water-saving devices, watering lawns with rainwater, and implementing intermittent operation of cafeteria faucets. Overall, we reduced water consumption by 1.9% year-over-year to 1,055,000 m<sup>3</sup> in fiscal 2017, and we discharged an estimated 874,000 m<sup>3</sup> of wastewater.



## Initiatives to reduce waste

TEL is contributing to waste reduction and recycling whenever possible by sorting waste and switching to waste-free production processes. When not possible, we appropriately dispose of non-recyclable waste. We also put a great deal of effort into waste sorting activities and participate in the electronic manifest system<sup>1</sup> to ensure proper waste management.

One example of our initiatives is the Koshi Factory in Kumamoto, where activities were undertaken to reduce the amount of inventory being disposed of as waste. To better utilize inventory, active efforts were made to rework components with low demand and to control inventory changeover with design changes. The factory successfully achieved reductions in terms of both waste and cost, reusing about 40% of inventory (based on cost) that would have been disposed of the previous year.

In fiscal 2017, we generated 112 tons of incinerated and landfill waste in Japan. As a result of our waste-reduction initiatives, the recycling rate<sup>2</sup> at sites in Japan in fiscal 2017 was 99.0%, achieving our goal of maintaining a recycling rate of 97% or higher for the 11th consecutive year since fiscal 2007. The recycling rate for our overseas factories and offices was 91.5%.

1 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.

2 Recycling rate: (Recycled amount/ Amount of waste generated) x 100

## Management of chemical substances

[URL tel-csr.disclosure.site/en/themes/182](https://tel-csr.disclosure.site/en/themes/182)

TEL uses chemical substances in our product development and manufacturing phases. The use and release of chemical substances that are under the purview of the Japanese PRTR<sup>3</sup> law are consistently monitored and managed.

3 Pollutant Release and Transfer Register (PRTR): 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 original business's premises

## Logistics initiatives

[URL tel-csr.disclosure.site/en/themes/181](https://tel-csr.disclosure.site/en/themes/181)

As transport regulations become more stringent and the demand for a lower impact on the environment rises, TEL has been promoting modal shifts<sup>4</sup> and other activities designed to reduce the environmental burden of its logistics.

4 Modal shift: A change in the mode of transport; specifically, switching from conventional freight transport by truck or aircraft to a means that has a lower impact on the environment, such as rail or ocean

## Biodiversity

[URL tel-csr.disclosure.site/en/themes/182](https://tel-csr.disclosure.site/en/themes/182)

TEL's activities impact biodiversity while also benefiting from it. In recognition of this, we promote activities for the conservation of biodiversity.

## Environmental communication

[URL tel-csr.disclosure.site/en/themes/182](https://tel-csr.disclosure.site/en/themes/182)

TEL maintains close communication with its stakeholders to promote its initiatives for the environment.

## Supply chain management

### Procurement Policy

In order to build sustained, trust-based relationships with suppliers and to maintain mutual growth, TEL has released a Procurement Policy and conducts procurement activities based on this. In fiscal 2017, we revised our Procurement Policy and our Procurement Policy–Supplement to include our review of the content of conflict minerals initiatives and reflect the EICC Code of Conduct. We informed suppliers of these revisions, including the request to comply with the EICC Code of Conduct. We joined EICC in June 2015.

### CSR procurement

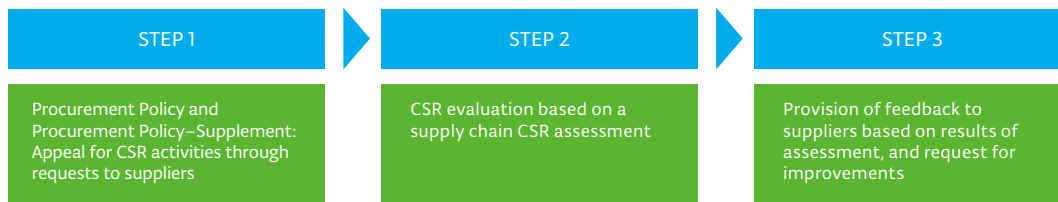
TEL is committed to building and maintaining a robust and sustainable supply chain. In addition to sharing our Procurement Policy, Procurement Policy–Supplement, EICC Code of Conduct, and Guideline for Green Procurement, we also promote CSR activities with suppliers. Our promotion includes respect for fundamental human rights, strict compliance with labor laws and regulations, and reduction of environmental impact.

\* 500 employees or more

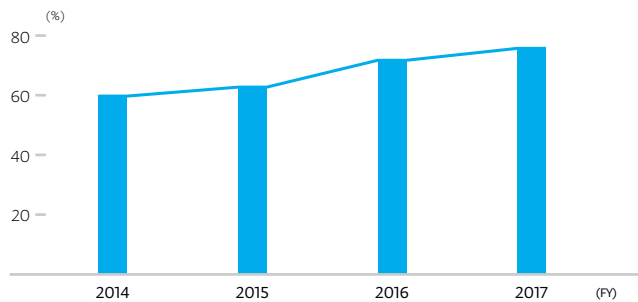
Since fiscal 2014, we have also conducted a CSR Survey with the aim of keeping track of suppliers' engagement in CSR activities. During fiscal 2017, we conducted a supply chain CSR assessment based on the EICC Code of Conduct with key suppliers (accounting for more than 80% of our procurement spend). Improvements in overall rating level were observed at 17% of suppliers and improvements in overall raw score were seen at 59%. We provided responses, results, and overall assessments as feedback to suppliers and as support for their improvement activities.

The results of the survey showed that no suppliers were engaged in any of the practices given particular emphasis in the EICC Code of Conduct, namely child labor, forced labor, bonded labor, inhumane treatment, false reports, falsification of records, or bribery. Also, no suppliers had a sufficient number of employees\* to be considered high risk in terms of compliance.

### Supply chain CSR process



Percentage of suppliers rating highly in supply chain CSR assessment





## Conflict minerals

TEL regards taking action against conflict minerals<sup>1</sup> an important part of corporate social responsibility. Our resolute goal is to eliminate the use of any parts or components with raw materials that include conflict minerals obtained through illegal exploitation, including sources with human rights violations or poor working conditions.

In fiscal 2017, we conducted our third annual survey on countries of origin and smelters of potential conflict minerals, using the Conflict Minerals Reporting Template (CMRT) developed by CFSI.<sup>2</sup> As a result, we identified 237 CFSP<sup>3</sup> compliant smelters, providing us confidence that 3TG sourced from these smelters were conflict-free. None of the materials procured were found to contain 3TG conflict minerals. This survey will continue every year, with the cooperation of suppliers, to further improve the quality and accuracy of the survey.

- 1 Conflict minerals: 3TG (tantalum, tin, tungsten and gold)
- 2 Conflict-Free Sourcing Initiative (CFSI): Founded by members of the EICC and GeSI (Global e-Sustainability Initiative), the CFSI inspects 3TG smelters to certify they do not have conflict minerals
- 3 Conflict-Free Smelter Program (CFSP): The CFSP is promoted and led by the CFSI

## Procurement BCP

As part of its business continuity plan (BCP), TEL collaborates 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. Following an earthquake or other disaster, we also survey suppliers registered in the affected location to assess impact to their operations. During fiscal 2017, about 17,000 supplier sites were registered, and post-disaster surveys were conducted six times. Following the Kumamoto Earthquake, the survey of impacted suppliers was carried out the same day. Consequently, our collaboration for recovery was quicker and smoother than at the time of the Great East Japan Earthquake. Also during fiscal 2017, we requested suppliers to evaluate their fire-prevention systems, and we shared this information internally along with activities to recover from fire damage.

According to a BCP survey of key suppliers (accounting for more than 80% of our procurement spend) improvements in overall rating level were observed at more than 32% of suppliers and improvements in the overall raw score were seen at more than 56%. Responses, results, and overall assessments were given as feedback to suppliers to promote further improvement.

## Composition of employees

		FY2014	FY2015	FY2016	FY2017
Number of regular employees by region	Japan	6,985	6,853	6,737	6,967
	Rest of Asia	1,443	1,386	1,543	1,850
	Europe and Middle East	955	670	440	448
	U.S.	1,652	1,622	1,586	1,655
	<b>Total</b>	<b>11,035</b>	<b>10,531</b>	<b>10,306</b>	<b>10,920</b>

		FY2014			FY2015			FY2016			FY2017		
		Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
Number of employees by employment type (Japan)	Regular employees	6,985	6,100	885	6,853	5,982	871	6,737	5,874	863	6,967	6,079	888
	Non-regular employees	286	162	124	313	183	130	323	201	122	321	209	112
	<b>Total</b>	<b>7,271</b>	<b>6,262</b>	<b>1,009</b>	<b>7,166</b>	<b>6,165</b>	<b>1,001</b>	<b>7,060</b>	<b>6,075</b>	<b>985</b>	<b>7,288</b>	<b>6,288</b>	<b>1,000</b>

Scope: Group companies in Japan (excluding Tokyo Electron Device Limited)

## Recruitment/employment (Japan)

		FY2014			FY2015			FY2016			FY2017		
		Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
Number of new graduates hired	Under 30 yrs old	154	132	22	73	65	8	24	20	4	72	70	2
	30-49 yrs old	3	3	0	0	0	0	1	1	0	0	0	0
	Over 50 yrs old	0	0	0	0	0	0	0	0	0	0	0	0
	Total (percentage of women)*	157	135	22 (14.0)	73	65	8 (11.0)	25	21	4 (16.0)	72	70	2 (2.8)
Number of career-track recruits	Under 30 yrs old	5	0	5	11	3	8	17	13	4	102	85	17
	30-49 yrs old	27	16	11	45	29	16	47	31	16	170	155	15
	Over 50 yrs old	2	2	0	6	4	2	2	2	0	7	6	1
	<b>Total</b>	<b>34</b>	<b>18</b>	<b>16</b>	<b>62</b>	<b>36</b>	<b>26</b>	<b>66</b>	<b>46</b>	<b>20</b>	<b>279</b>	<b>246</b>	<b>33</b>
Retirees who used reemployment system		68	68	0	74	74	0	101	98	3	125	123	2
Users of second career support system		82	68	14	69	59	10	49	43	6	34	30	4
Percentage of regular employees who received regular performance and career evaluations		100	100	100	100	100	100	100	100	100	100	100	100
Percentage of employees with disabilities	TEL (non-consolidated)	1.80			2.00			1.96			2.13		
	Group	1.90			1.94			1.98			1.98		
Number (percentage) of women among managers	TEL (non-consolidated)	30 (1.2)			32 (1.3)			39 (1.5)			42 (1.6)		
	Group	30 (1.2)			32 (1.3)			39 (1.5)			42 (1.6)		

Scope: Group companies in Japan (excluding Tokyo Electron Device Limited)

\* Change from last year's report: Updated figures due to change in calculation method

## Employee retention

		FY2014			FY2015			FY2016			FY2017		
		Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
Retention after three years of joining TEL (average in recent five years)*		95.0	95.8	91.3	94.2	95.0	90.3	93.6	94.1	90.2	92.9	94.1	85.2
Average service years		15 yrs. 7 mos.	15 yrs. 9 mos.	14 yrs. 3 mos.	16 yrs. 4 mos.	16 yrs. 6 mos.	15 yrs. 3 mos.	17 yrs. 0 mos.	17 yrs. 2 mos.	16 yrs. 0 mos.	17 yrs. 1 mos.	17 yrs. 4 mos.	15 yrs. 5 mos.
Employee turnover (percentage)		122 (1.6)	89	33	198 (2.7)	164	34	131 (1.8)	94	37	102 (1.4)	82	20

Scope: Group companies in Japan (excluding Tokyo Electron Device Limited)

\* Change from last year's report: Updated figures due to change in calculation method

## Work-life balance (Japan)

	FY2014			FY2015			FY2016			FY2017		
	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
Use of annual paid leave	59.6			61.8			62.6			64.1		
Number of those who took refreshment leave	772	663	109	1,285	1,091	194	1,045	926	119	586	499	87
Number of those who took paternity leave	211			192			172			179		
Number (percentage) of those who took childcare leave	70	3	67 (94.6)	52	3	49 (94.5)	42	2	40 (93.3)	44	2	42 (95.7)
Number (percentage) of those who returned to work after childcare leave	53 (93.0)	3	50	46 (88.5)	2	44	46 (85.2)	1	45	44 (93.6)	2	42
Employee retention after childcare leave	97.4			94.3			91.3			95.7		
Number of those who used the shorter working hour system	159	8	151	183	11	172	188	13	175	170	23	147
Number of those who took childcare leave to care for a sick/injured child	435	240	195	460	246	214	453	245	208	464	263	201
Number of those who took childcare support leave	92	17	75	96	24	72	103	15	88	106	16	90
Number of those who took extended nursing care leave	2	0	2	2	0	2	0	0	0	2	1	1
Number of those who took short nursing care leave	22	13	9	20	11	9	31	10	21	50	31	19
Number of those who used the shorter working hour system for nursing care	1	1	0	1	1	0	0	0	0	0	0	0

Scope: Group companies in Japan (excluding Tokyo Electron Device Limited)

## Safety

	FY2014	FY2015	FY2016	FY2017
Percentage of employees who received training on basic safety	100	100	100	100
Percentage of employees who received training on advanced safety	100	100	100	100
Lost time incident rate (LTIR)*	0.82	0.53	0.42	0.46
Number of workplace injuries per 200,000 work hours (TCIR)	0.37	0.24	0.21	0.28

\* Change from last year's report: Updated figures due to change in calculation method

## Governance

	FY2014	FY2015	FY2016	FY2017
Total number of critical incidents notified to Board of Directors	—	—	—	1
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
Number of directors who received training on anti-corruption*	—	—	—	12
Total number (percentage) of directors who provided instructions on the body's policies and procedures in relation to anti-corruption*	—	—	—	11 (100)
Total number (percentage) of governance body members who received training on anti-corruption*	—	—	—	9 (81.8)

\* Scope: Japan

## Compliance

	FY2014	FY2015	FY2016	FY2017
Percentage of employees who have received web-based training on business ethics and compliance	100	99.7	98.4	98.0*
Percentage of employees who have consented to the information security agreement	100	100	99.9	99.9
Number of substantiated complaints regarding customer privacy infringement and loss of customer data	0	0	0	0

\* Fiscal 2017 figures are for Japan only. Training is continuing overseas until the end of June 2017.

## Products/Innovation

		FY2014	FY2015	FY2016	FY2017
Number of breaches of regulations and self-imposed restrictions on health and safety that occurred during product/service lifecycle		0	0	0	0
Amount of significant fines for breaches of laws and regulations on provision/use of products and services		0	0	0	0
Number of active issued patents	Japan	5,227	5,288	5,172	4,984
	U.S.	4,299	4,326	4,361	4,224
	Europe	439	354	241	199
	Korea	2,875	2,847	2,784	2,672
	Taiwan	1,889	1,983	2,131	2,387
	China	1,647	1,623	1,611	1,557
	Total	16,376	16,421	16,300	16,023

		CY2012	CY2013	CY2014	CY2015*
Global patent application rate (%)		70.3	69.5	68.0	70.0
Patent application success rate (%)	Japan	78.0	74.0	78.0	66.5
	U.S.	66.8	62.8	71.2	72.3

\* Calendar year when patents were filed/granted

## Customers

		FY2014	FY2015	FY2016	FY2017
Percentage of customers who said they were satisfied in the customer satisfaction survey		79.5	79.5	87.1	86.8

## Procurement

		FY2014	FY2015	FY2016	FY2017
Percentage of new important suppliers screened using social criteria		—	—	100	100
Rate of improvement after supply chain CSR assessment (including green procurement survey from fiscal 2016)		—	25.3	33.8	16.9
Rate of improvement after supply chain BCP assessment		—	41.2	26.5	32.3
Number of identified CFSP-certified smelters		—	117	204	237

## Social contribution

		FY2014	FY2015	FY2016	FY2017
Spending on social contribution (million yen)		259	184	277	242
Cash donations breakdown	Charity donations (providing donations/relief supplies to charity organizations)	5	2	14	17
	Community investment (charitable expenses for long-term cause for community)	38	47	52	43
	Commercial initiatives (charitable expenses with anticipated effects on business growth)	57	51	34	40

# Performance summary (Environment)

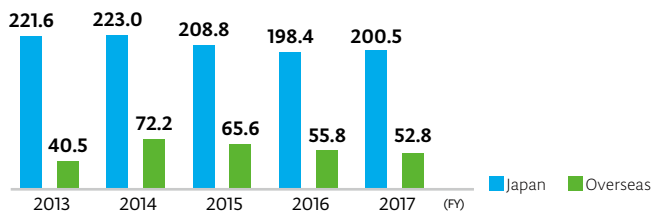
## Energy consumption/generation

	Scope	FY2014	FY2015	FY2016	FY2017
Energy consumption metric (energy consumption/sales) (kL/billion yen)	Group	1.30	1.20	1.02	0.84
Energy consumption (crude oil equivalent) (kL)	Japan	58,927	54,973	52,002	52,676
	Overseas	20,432	18,448	15,497	14,781
	Total	79,359	73,421	67,499	67,457
Electricity consumption (MWh)	Japan	222,976	208,753	198,404	200,547
	Overseas	72,239	65,615	55,797	52,753
	Total	295,215	274,368	254,201	253,300
Gas consumption (crude oil equivalent) (kL)	Japan	2,027	1,929	1,602	1,666
	Overseas	1,850	1,572	1,146	1,211
	Total	3,877	3,501	2,748	2,877
Fuel consumption (crude oil equivalent) (kL)	Japan	1,156	870	706	796
	Overseas	4	1	0	1
	Total	1,160	871	706	797
Green power purchase (MWh)	Japan	0	0	0	0
	Overseas	2,618	2,405	3,833	3,334
	Total	2,618	2,405	3,833	3,334
PV power generation (MWh)	Japan	4,698	4,536	4,486	4,436
	Overseas	26	23	0	0
	Total	4,724	4,559	4,486	4,436
Power sales (MWh)*	Japan	1,439	1,337	1,331	1,346
	Overseas	0	0	0	0
	Total	1,439	1,337	1,331	1,346

\* Heating, cooling and steam not sold

### Electricity consumption

(Million kWh)

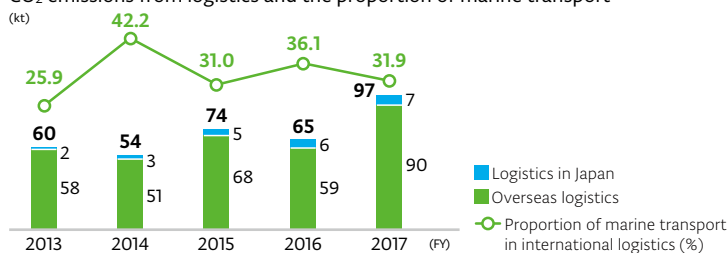


## Environmental impact of logistics

	Scope	FY2014	FY2015	FY2016	FY2017
CO <sub>2</sub> emissions from logistics (kt)	Japan	3	5	6	7
	Overseas	51	68	59	90
	Total	54	74	65	97
Proportion of marine transport in international logistics (%)	Shipped from Japan	42.2	31.0	36.1	31.9

### CO<sub>2</sub> emissions from logistics and the proportion of marine transport

(kt)

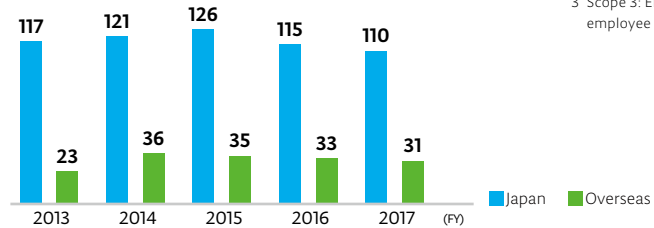


## Greenhouse gas consumption/emissions

	Scope	FY2014	FY2015	FY2016	FY2017
CO <sub>2</sub> emissions from energy consumption (kt)	Japan	121	126	115	110
	Overseas	36	35	33	31
	Total	157	160	148	141
Metric for CO <sub>2</sub> emissions from energy consumption (CO <sub>2</sub> emissions/sales) (t/billion yen)	Group	2.57	2.61	2.22	1.77
Scope 1 <sup>1</sup> CO <sub>2</sub> emissions (kt)	Japan	8	7	6	6
	Overseas	4	3	2	2
	Total	11	10	8	8
Scope 2 <sup>2</sup> CO <sub>2</sub> emissions (kt)	Japan	113	119	109	104
	Overseas	33	31	30	29
	Total	146	151	140	133
Scope 3 <sup>3</sup> CO <sub>2</sub> emissions (kt)	Group	3,651	3,566	3,491	4,028
Non-energy-derived greenhouse gas emissions (kt)	Japan	21	22	33	28
	HFCs	3	2	1	3
	PFCs	7	6	8	8
	SF <sub>6</sub>	11	14	17	9
	Other	0.01	0.01	6	8

- 1 Scope 1: Direct GHG emissions from use of fuel and gas owned or controlled by TEL
- 2 Scope 2: Indirect GHG emissions from use of electricity, steam and heat purchased by TEL
- 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

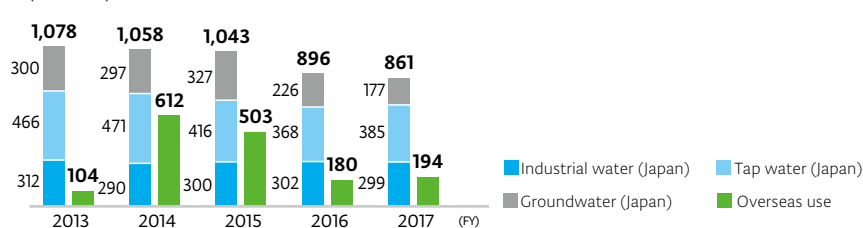
### CO<sub>2</sub> emissions from energy consumption (kt)



## Resource consumption

	Scope	FY2014	FY2015	FY2016	FY2017
Water consumption (thousand m <sup>3</sup> )	Japan	1,058	1,043	896	861
	Groundwater	297	327	226	177
	Tap water	471	416	368	385
	Industrial water	290	300	302	299
	Overseas	612	503	180	194
	Total	1,670	1,546	1,076	1,055
Use of copier paper (t)	Japan	116	162	128	157

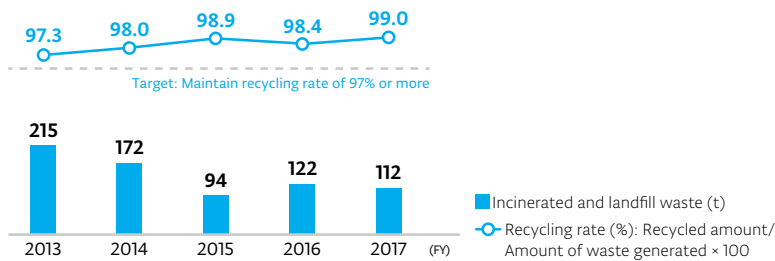
### Water consumption (thousand m<sup>3</sup>)



## Amount of waste generated

	Scope	FY2014	FY2015	FY2016	FY2017
Amount of waste generated (t)	Japan	8,780	8,858	7,721	11,393
	Overseas	1,185	1,206	663	925
	Total	9,965	10,064	8,384	12,318
Amount of specially controlled industrial waste generated (t)	Japan	2,627	2,842	2,125	3,683
Recycled amount (t)	Japan	8,608	8,764	7,599	11,281
	Overseas	813	1,064	583	847
	Total	9,421	9,828	8,182	12,128
Amount of incinerated and landfill waste (t)	Japan	172	94	122	112
	Overseas	372	142	80	78
	Total	544	236	202	190
Wastewater (thousand m <sup>3</sup> )	Japan	—	—	750	709
	Overseas	—	—	154	165
	Total	—	—	904	874

## Recycling rate/generation of incinerated and landfill waste in Japan

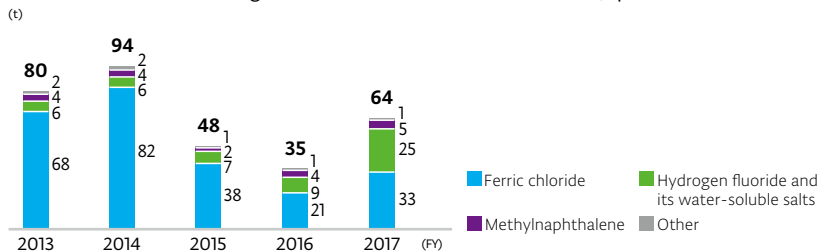


## Chemical substances consumption/emissions

	Scope	FY2014	FY2015	FY2016	FY2017
Volume of PRTR Class I designated chemical substances handled (t)	Japan	94	48	35	64
	Ferric chloride*	82	38	21	33
	Hydrogen fluoride and its water-soluble salts	6	7	9	25
	Methylnaphthalene	4	2	4	5
	Other	2	1	1	1
PRTR Law material balance (t)	Amount transported as waste	90	46	31	59
	Consumption	4	2	4	5
NOx emissions (t)	Japan	9.7	1.2	7.5	7.9
SOx emissions (t)	Japan	2.8	2.7	2.2	2.5

\* Added in accordance with the PRTR Law

## Volume of PRTR Class I designated chemical substances handled in Japan



## Other

	Scope	FY2014	FY2015	FY2016	FY2017
Number of ISO 14001-certified companies	Japan	7	4	4	5
	Overseas	3	4	3	3
	Total	10	8	7	8
Number of ecosystem tours	Japan	16	13	15	18
Number of ecosystem tour participants	Japan	42	69	281	396
Number of breaches of environmental laws and regulations	Group	0	0	0	0
Amount of fines on legal breaches	Group	0	0	0	0
Total product shipment (t)	Japan	16,331	13,596	17,342	20,445

Cover photo: Cherry blossom (Japan)

This photograph shows the flowers of the country and region we do business in.



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