

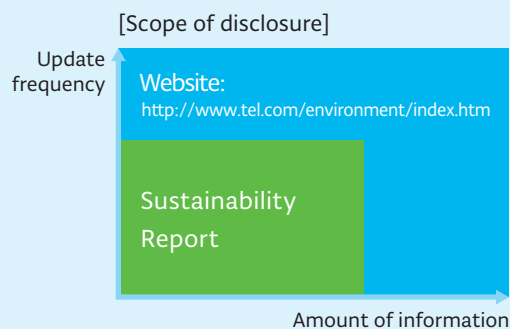
TOKYO ELECTRON
Sustainability
Report 2016

Editorial policy

With the publication of the fiscal year 2016 edition, the title of the report has been changed from “Environmental and Social Report” to “Sustainability Report”. Efforts are also being made to communicate more clearly about TEL’s roles and responsibilities in promoting sustainable society and about specific activities toward achieving this goal.

Recognizing the importance of stakeholder communication, we made every effort to improve the quality and organization of the report, so readers can understand the positioning of CSR (Corporate Social Responsibility) at TEL and the policies and initiatives for advancing CSR. In this edition, we explain the connection between society and TEL’s medium- to long-term management plans. We also clearly describe the goals and activities of each department to demonstrate our commitment to solving social issues through business operations and enhancing overall corporate value. To find out more, please visit us at www.tel.com.

TEL will continue to promote CSR, including the disclosure of information in a transparent manner. Your candid opinions and inputs on this report are highly appreciated.



Organizations covered

Although some content covers only TEL subsidiaries in Japan, this report covers the entire TEL Group, 38 consolidated companies around the world. In April 2014, the status of Tokyo Electron Device Limited changed from being a consolidated subsidiary to an equity-method affiliate.

Period covered

Although some content covers fiscal year 2017, this report principally covers fiscal year 2016 (from April 1, 2015 to March 31, 2016).

Publication date

Current report: July 2016

Next report: Scheduled for July 2017

Previous report: July 2015

Reference Guidelines

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

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

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CEO's message

Toward realizing the growth of a dream-inspiring society

In January 2016, I was given the privilege of serving as Representative Director, President, and CEO of Tokyo Electron Limited (TEL). On behalf of TEL, I would first like to express my sincere gratitude to all stakeholders for their continued support and patronage.

As is well known, the United Nations General Assembly unanimously adopted the Sustainable Development Goals (SDGs) in September 2015. In December, the parties to the United Nations Framework Convention on Climate Change held the 21st conference (COP21) and formally adopted an agreement on the international plan for dealing with global warming from 2020 onward (the Paris Agreement). These developments represent broad participatory efforts by global partnerships to achieve a sustainable society. On the social front, the IoT (Internet of Things) is almost upon us. Soon, not only personal computers and mobile devices, but also almost everything in our society will be connected to the internet. The arrival of this new era is accelerated by semiconductors, which are supported by manufacturing systems featuring advanced technologies.

With these developments in mind, TEL set forth a medium-term management plan in July 2015, laying out the business goals for the period leading up to the fiscal year ending March 2020. In addition to our scrupulous adherence to the “customer first” principle that has been TEL’s legacy since its founding, we have unified our development organizations, enabling a fusion of technologies held by our diverse business units. The plan will lead to the creation of high value-added products, raising us to the world-leading position in the customers’ minds and giving us even greater earnings power.

In December 2015, we established the Tokyo Electron Corporate Governance Guidelines. The main features of our corporate governance include:

- An emphasis on free, open-minded discussions in the Board of Directors
- Management that is fair, effective, and transparent
- The establishment of Corporate Senior Staff (CSS) as the body that formulates and advances corporate strategy.

Under this growth-oriented governance structure, we are determined to achieve further growth.

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 the leading manufacturer of semiconductor and flat panel display production equipment, TEL is determined to contribute to the solution of diverse social issues.

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



Toshiki Kawai

Representative Director, President & CEO
Tokyo Electron Limited

CSR operations

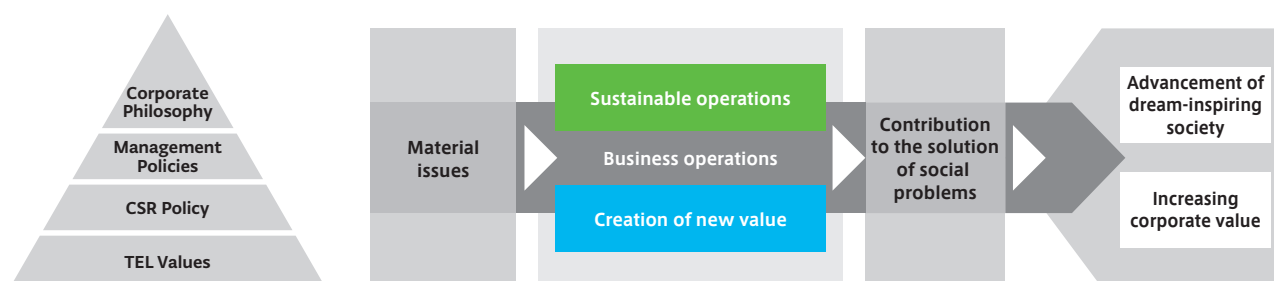
TEL's corporate philosophy and CSR

Corporate philosophy

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



TEL considers CSR to be the embodiment of its corporate philosophy, which has been firmly upheld since TEL's founding. TEL pursues sustainable operations from the viewpoints of corporate governance, legal and regulatory compliance, and business ethics while creating new value through its products and services. Based on these efforts, TEL implements CSR activities to help solve social problems. TEL will continue to pursue CSR activities to build stakeholder trust, improve corporate value, and promote the growth of a sustainable and dream-inspiring society.



CSR policy

TEL has developed a CSR policy that outlines the principles and values that form the foundation of its CSR activities.

1	Corporate Activities	TEL provides safe, high-quality products and services to customers around the world and works toward the enrichment of society.
2	Business Ethics	TEL acts in compliance with the laws and regulations of the countries in which it operates, observes international regulations, and acts in accordance with strict business ethics. We do not engage in any conduct that impedes fair and open market competition.
3	Respect for Individuals	TEL respects the character and individuality of each person. We value the diversity of employees, share a strong sense of mission, and promote the development of a vibrant work environment.
4	Environment	TEL seeks to achieve harmony with the global environment. By developing and providing eco-friendly products, we strive to reduce our own impact on the environment and help our customers reduce theirs as well.
5	Communication with Stakeholders	TEL discloses information in a fair, impartial, and timely manner; strives to engage in two-way communications; and works to meet stakeholder expectations.
6	Social Contribution	As a good corporate citizen, TEL promotes the development of local communities and the betterment of society worldwide.

CSR promotion framework

Through the end of fiscal year 2016, TEL semiannually convened a CSR promotion committee, consisting of the CSR Promotion Corporate Director, CSR Promotion Executive Officer, and the heads of related departments. The committee discussed CSR, set goals, and checked the progress of ongoing action plans. TEL held CSR monthly meeting to share information about departmental CSR issues and promote improvement. Starting in fiscal year 2017, TEL semiannually convenes the CSR management council, comprising the CEO, corporate directors, and division general managers. At the same time, the CSR promotion committee has been reorganized into the CSR global promotion committee to further enhance CSR activities at the global level.

Theme	Goals for fiscal year 2016	Results for fiscal year 2016
Sustainable management	CSR management <ul style="list-style-type: none"> Effectively use and maintain CSR management system. Regularly report on CSR activities at management meetings. 	<ul style="list-style-type: none"> Convened management council joined by CSR Promotion Corporate Director and CSR Promotion Executive Officer to review CSR activities and set goals for the next fiscal year. Reported on primary CSR activities at the corporate management council.

Stakeholder communication

Business activities are based on good communication with stakeholders and society at large. That is why TEL considers building stakeholder trust essential to its operations. Accordingly, TEL discloses information on the progress of its initiatives and future direction of its business in a fair and timely manner through regular briefings and its corporate website. In addition, TEL interacts with stakeholders on many occasions and through various contact points. This helps us accurately understand their views and expectations, and allows TEL to quickly reevaluate and adjust its course of business as appropriate.

Through these efforts, TEL is reducing the latent impact of social and environmental issues on its business while seeking to improve its competitiveness and market position to maintain sustainable business operations.

Theme	Goals for fiscal year 2016	Results for fiscal year 2016
Communication	Stakeholder engagement <ul style="list-style-type: none"> Formulate company-wide stakeholder engagement policy and execution plan. 	<ul style="list-style-type: none"> Evaluated the positions and priorities of stakeholders. The formulation of engagement policy and execution plan will continue in fiscal year 2017.
	Disclosure <ul style="list-style-type: none"> Expand the scope of communication on main social contribution activities. 	<ul style="list-style-type: none"> Enhanced communication on TEL's social contribution activities in Japan and abroad.

TEL's key stakeholders	Divisions in charge	Key communication methods
Shareholders/investors	Management, IR	Earnings announcement (quarterly), Medium-term management plan briefing, Interviews, Factory tours
Customers	Sales, R&D, Marketing	Interviews, Executive meetings, Customer satisfaction survey (annual), Technology conferences
Suppliers	Procurement, Purchasing	Production update briefing (semiannual), Partners day (annual), STQA ¹ audit, Interviews
Employees	Management, HR	Employee meetings, Technology conference, Interviews, Global engagement survey (annual)
Local communities	Local administration teams	Factory tours, Participation in local activities, Visits to/interviews with local authorities, Social contribution activities
Governments/associations	Local administration teams	Legal and regulatory compliance/notification/monitoring/advocacy, Industry group activities, Alliances with external organizations

¹ STQA: Supplier Total Quality Assessment

Examples of initiatives

Technology conferences

TEL holds technology conference meetings of various sizes throughout the year, addressing the needs of specific business units, markets, regions, and so forth. These conferences serve as venues for information sharing and multifaceted communication and have received positive reviews from customers, TEL employees, and other participants. Through these networking events, TEL is effectively sharing information to support innovation and the development of high value-added products and services.



Participation in international CSR initiatives

TEL is taking an active part in international CSR organizations, such as the United Nations Global Compact and the EICC[®]*, a CSR alliance of the electronics industry.

In fiscal year 2016, we assigned EICC promotion personnel at TEL locations in Japan and in the U.S. to promote effective compliance with the EICC Code of Conduct. These personnel also reinforce operational compliance for the Asian, European, and U.S. regions where TEL conducts business. For major suppliers, those whose total business with TEL accounts for over 80% of our procurement spending, we have implemented a Supply Chain CSR Assessment to ensure control over our supply chain based on the EICC Code of Conduct.

* EICC[®] is a registered trademark of Electronic Industry Citizenship Coalition Incorporated.



Theme	Goals for fiscal year 2016	Results for fiscal year 2016
Sustainable management	EICC <ul style="list-style-type: none"> Build a global framework for EICC compliance promotion and implement training. 	<ul style="list-style-type: none"> Appointed EICC promotion personnel to overseas bases to build and reinforce compliance. Initiated training programs.

Evaluations by external organizations

To enhance medium- to long-term corporate value, TEL is using evaluations by external organizations as benchmarks of its operations. In fiscal year 2016, TEL was chosen as a Sustainability Yearbook Member and an Industry Mover by RobecoSAM AG¹, a research institute that cooperates with the Dow Jones Sustainability Indices (DJSI). Since 2003, TEL has been a part of the FTSE4Good Global Index, a prominent index for social responsibility investment (SRI). TEL has also been selected by Morgan Stanley Capital International (MSCI) for the MSCI ACWI ESG Index and the MSCI World ESG Index.

¹ RobecoSAM AG: An investment specialist founded in 1995 focused exclusively on Sustainability Investing



Social issues surrounding our business

International initiatives to realize a sustainable society, such as the UN Sustainable Development Goals (SDGs) and the Paris Agreement, have begun to be implemented. Businesses are also being requested to leverage their operational strength to help resolve diverse social issues on a global level.

The semiconductor production equipment industry, which TEL is a part of, has made remarkable contributions to people's lives through constant technology innovation. This advancement and diversification of semiconductor process technologies comes with the risk of higher development costs. In addition, any delay in responding to customer needs can lead to lost opportunities for entering markets. Insufficient compliance with climate change related laws and regulations in the countries where TEL operates can put its marketing opportunities as well as its reputation at risk. There are many other social issues surrounding TEL's operations, as listed below. We believe being prepared for and proactively responding to these issues is critical to both ensuring our business growth and attaining a sustainable society.

Social issues most relevant to TEL	Risk prevention and countermeasures
Technical differentiation and innovation	Continued investment in R&D, Open innovation
Climate change	Environmentally friendly products, Prevention of global warming, energy-saving initiatives
Unpredictable risks to business continuity: natural disasters, war, terrorism, infectious diseases	BCP programs
Anti-corruption measures and fair business practice	Continued initiatives to reinforce governance, Education on ethics and compliance
CSR in the supply chain	CSR-based procurement, Participation in conflict minerals initiatives, Green procurement, BCP of suppliers
Securing human resources worldwide, retention of key personnel	Achieving an invigorating workplace, Reinforcement of diverse programs, Human resource development
Health and safety	Safety initiatives, Improvement of employee health and workplace environment
Tightening of legal restrictions by governments and others	Information gathering on related laws, Policy advocacy initiatives, Legal compliance

Policy advocacy initiatives

It is essential for a business that its products and technologies earn public acceptance in a manner that does not disregard requirements of society. Creating synergy between businesses and society can lead to greater advancement of the semiconductor industry and bring solutions to many social issues. TEL, as a member of SEMI² and other industry organizations, is engaged in advocacy. These initiatives involve lobbying governments and local authorities for public policies and regulations that benefit society in a practical and rational way. TEL believes that when backed by a good grasp of regulatory trends, active participation in advocacy initiatives can reduce the sustainability risk of manufacturing operations, not only for TEL itself but also for its customers.

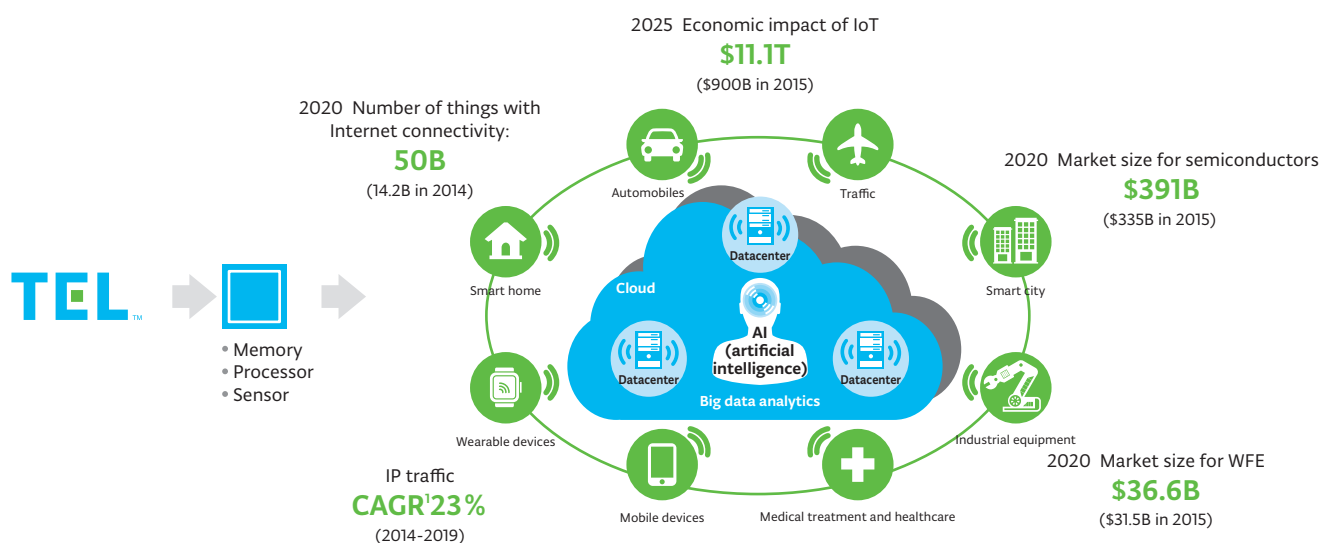
² SEMI: A global industry association serving the supply chain of manufacturing equipment, raw materials, and related services in such fields as semiconductors, flat panel displays (FPDs), nanotechnology, MEMS, photovoltaics, and related technologies

Business opportunities and mid-term vision

The IoT-enabled future

From a medium to long-term perspective, the electronics industry is about to enter the age of the Internet of Things (IoT), where everything is connected to the internet. The number of devices with internet connectivity is expected to reach 50 billion in 2020, and the volume of data exchanged across the global networks is predicted to soar at an average annual rate of 23%. The demand for greater data processing capabilities, faster transfer rates, less power consumption, and higher screen resolution will only continue to rise.

Due to these trends, TEL is simultaneously pursuing R&D into more sophisticated miniaturization, new structures and new materials technologies, new memory chips based on new device technologies, and new packaging technologies. Being a semiconductor production equipment manufacturer with diverse technologies, TEL's diverse capabilities will be in much greater demand in the near future.



Source: CISCO, McKinsey & Company, Semiconductor and WFE² markets (worldwide): Gartner, Forecast: Semiconductor Wafer-Level Manufacturing Equipment, Worldwide, 1Q16 Update. April 14, 2016

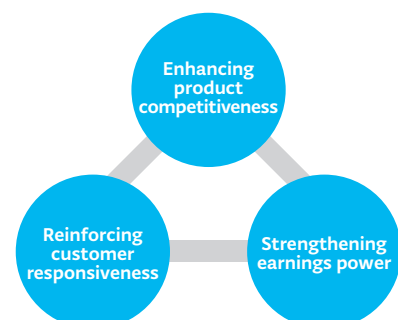
1 CAGR: Compound Annual Growth Rate

2 WFE: Water Fab Equipment

Mid-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 some factors that are required to integrate TEL's diverse capabilities as a semiconductor production equipment manufacturer and provide innovative solutions to customers. These include advanced technology development capability, services and technologies for speedily addressing customers' problems, and world-class earnings power. To attain the goals of our Medium-term management plan by the fiscal year ending March 2020, TEL has chosen these three focus areas to drive the implementation projects.



Materiality assessment

Process for identifying material issues

TEL identifies material issues based on the following process:

Step 1. Identifying social issues

Various departments concerned with CSR examined the variety of social issues from the standpoints of SDGs, the UN Global Compact, GRI, and so on. They worked with departments in charge of risk management and organization strategy to select social issues that are of great significance to TEL.

<External ideas and assessments used for reference>

- UN Sustainable Development Goals
- The Ten Principles of the UN Global Compact
- EICC Code of Conduct
- GRI G4 Guidelines
- Expectations from SRI and TEL's ranking
- Social norms and interest of the citizenry
- Inputs from stakeholder communication
- Views and requests given in response to our reports and through the Internet
- Advice of third-party support organizations on analysis of materiality

Step 2. Assessment of relevant business issues and prioritization

After the social issues were identified in Step 1, their relevance to our business issues was assessed and key issues were prioritized.

<TEL's principles, business environment, and policies used for reference>

- Corporate Philosophy
- Management Policies
- CSR Policy
- Underscored items in the medium-term vision
- Investment trends
- Plans for new businesses
- TEL Values
- Social issues and opportunities surrounding our operations
- Benchmarks of competitors in the industry

Step 3. Verification of feasibility

Inviting external experts as advisors, the Materiality Review Council was convened to evaluate the feasibility of each material issue identified in the previous fiscal year. The principal views and suggestions gained at the Council were as follows:



Materiality Review Council

<Principal views and suggestions obtained>

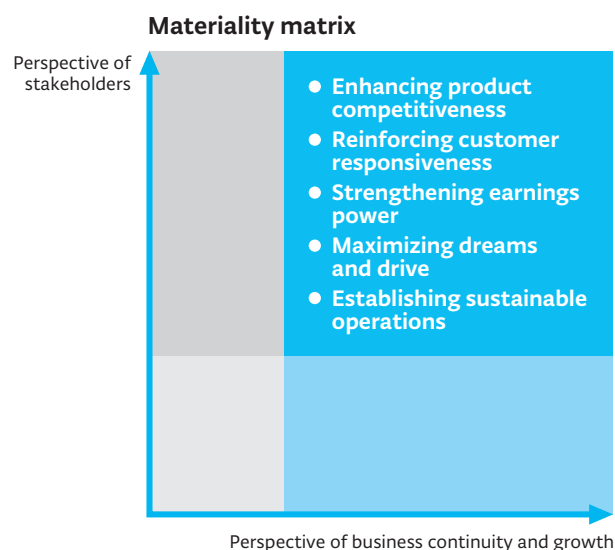
- A review of the material issues for fiscal year 2016 revealed that, in order to improve the choice of issues for the next fiscal year, more emphasis should be placed on the perspectives of management strategy and social issues. In addition, operational priorities should be made clearer.
- With regard to customer responsiveness, opportunities are growing at every stage of operations from equipment design through post-sales service. Customer engagement is becoming more important than ever before.
- In step with the advancement of technology, market expectations on innovation, new technologies, and speed, are increasing and must be addressed.
- Value creation in supply chain management is essential, and we need to maintain good relationships with our suppliers.
- As the labor force in Japan is shrinking, we need to take a global approach to HR management and provide an environment that enhances intellectual productivity regardless of the employees' nationality and culture.

Identifying material issues

TEL fulfills the roles and responsibilities of a corporate citizen in the international community through its support for the UN Global Compact and by endeavoring to solve social issues identified in the UN SDGs. In determining the materiality of the corporate issues at hand, TEL sought to thoroughly understand its business environment and risks, while also placing an emphasis on clarifying the connection between the social issues and TEL's operations.

As a manufacturer of semiconductor production equipment, TEL believes it can contribute to the advancement of technologies that support and enrich people's lives by fully understanding market changes and real customer needs and by continuously delivering innovative next-generation products. TEL also considers it important to streamline its operations and gain world-class earnings power. This will allow us to attain sustainable growth and medium- to long-term improvements in the enterprise value and to realize a dream-inspiring and engaging workplace with fully functional compliance and governance systems. In addition, this approach will continue to show TEL's focus on human rights and labor issues, as we continually offer challenging opportunities for personal growth.

Based on this position, and mindful of the need to be comprehensive and concise, TEL chose the material issues for fiscal year 2017 while also keeping the previous year's material issues in perspective.



CSR goals for fiscal year 2017

For fiscal year 2017, TEL has set 16 goals related to 5 material issues and is working to achieve them.

Material issues	Themes	Goals
Enhancing product competitiveness	Innovation	Maintain development costs at the fiscal year 2016 level.
	Environmental contribution of products	Continue initiatives to reduce per-wafer consumption of energy and pure water by 10% by fiscal year 2019 (as compared with fiscal year 2014).
Reinforcing customer responsiveness	Customer satisfaction	Get 3.0 points or more on a 4.0 scale for every item in the customer satisfaction survey.
	Quality	Implement PDCA ¹ training and disseminate the TEL 6-Step model (8D problem solving method ²).
	Information security	Ensure all target employees take a training course in information security.
Strengthening earnings power	Improve profitability	See Annual Report 2016
	Streamline operations	Maintain the number of TPM programs at the fiscal year 2016 level.
Maximizing dreams and drive	Create an invigorating workplace	Provide a work environment that supports continuous growth while ensuring performance-responsive, scrupulously fair treatment of employees.
	Social contribution	Maintain the number of social contribution programs at the fiscal year 2016 level.
Establishing sustainable operations	Corporate governance	Improve the operation of the Board of Directors through annual effectiveness evaluations.
	Compliance and ethics	Ensure all employees complete training courses in business ethics and compliance.
	Business continuity management	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).
	Safety	TCIR ³ : Less than 0.5.
	Environmental management	Reduce energy consumption by 1% on a per-unit basis ⁴ from the fiscal year 2016 level.
		Maintain water consumption at the fiscal year 2012 level (on a per-unit basis).
	Supply chain management	Reinforce supply chain management through supply chain CSR assessment*. * Targeted at high-ranking suppliers whose aggregate business with Tokyo Electron accounts for 80% of its procurement.

1 PDCA: A method for continually improving operations by iterating the four steps of Plan, Do, Check, and Act

2 8D problem solving method: A method for solving problems in quality improvement through eight disciplines or processes

3 TCIR: Total Case Incident Rate (the number of workplace injuries per 200,000 work hours)

4 Per-unit basis: Energy consumption (environmental burden) divided by values closely associated with energy consumption, such as production volume, number of employees or total floor area

Innovation

Innovation management

With the IoT just around the corner, demand for greater processing power, faster data transfer, lower power consumption, and higher screen resolution continues to increase. Against this backdrop, new semiconductor structures and new material processing technologies are being introduced, prompting the pursuit of innovative memory chips based on new devices and processing technologies that enable further miniaturization. As these issues become increasingly harder to solve with any single piece of processing equipment, semiconductor production equipment manufacturers must offer more comprehensive solutions.

Development of innovative STT-MRAM chip technology

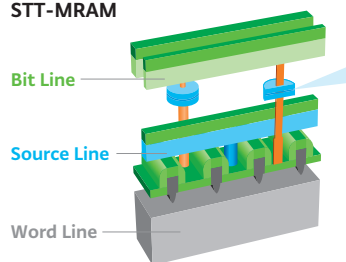
Partnership with Tohoku University

TEL participates in Tohoku University's Center for Innovative Integrated Electronic Systems (CIES) which opened in October 2012, with the goal of accelerating the development of STT-MRAM (Spin-Transfer Torque Magnetoresistive Random Access Memory) manufacturing equipment and chip integration technology.

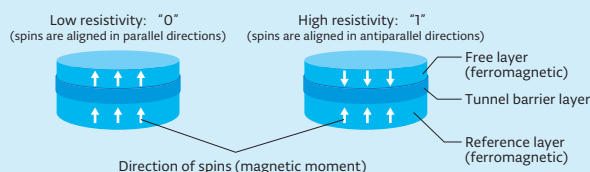
STT-MRAM is a magnetoresistive random access memory device that uses a data rewrite method called "magnetization reversal induced by spin injection." Being a non-volatile device, it can significantly reduce power consumption, has large capacity and fast data transfer rates, and can rewrite an unlimited number of times. These characteristics are ideal for semiconductor memory.

Using manufacturing equipment developed by TEL, the development of STT-MRAM manufacturing technology has been moving along at an excellent pace. We expect that STT-MRAM device properties will prove suitable for next-generation memory chips in the very near future. Going forward, we intend to apply the research results of the CIES to the development of our own equipment, so we can deliver TEL products that our global customers can rely on in a timely manner.

STT-MRAM



STT-MRAM cell mechanism



STT-MRAM rewrites information by passing currents through magnetic thin films and changing the directions of spin (magnetic moment) in the free layer, which alters the resistance in a memory cell. This method, called spin torque switching, is ideal for scaling and reducing power consumption of memory devices.

EXIM™ sputtering system wins Award for Excellence at Semiconductor of the Year 2015

TEL has been developing equipment for manufacturing STT-MRAM, which is attracting attention as an energy-saving memory device. One example is the EXIM™ sputtering system for next-generation semiconductor devices, which won the Award for Excellence in the semiconductor manufacturing equipment category at the Semiconductor of the Year (sponsored by Sangyo Times, Inc.) in June 2015.

The EXIM incorporates advancements in thin film deposition technology, which is considered to be crucial to the manufacture of STT-MRAM, featuring an MR ratio¹ as high as 230%, enabling production of large-capacity memory chips. The EXIM's unique and flexible modular design allows the system to be freely reconfigured for various purposes, ranging from development to mass production.

¹ MR (magnetoresistive) ratio: The ratio of the resistance change that occurs when the magnetization directions between free and reference layers switch from parallel state to anti-parallel state, and vice versa. Higher MR ratio is essential for manufacturing large capacity memory devices.



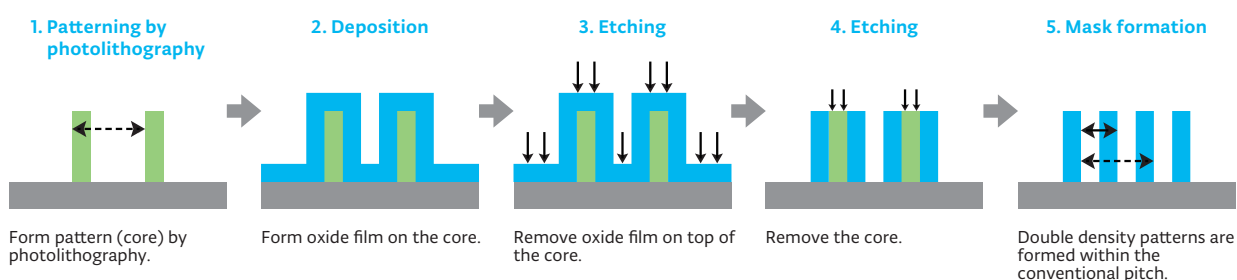
Miniaturization initiatives

Evolution of semiconductors has been driven by miniaturization, which enabled faster processing, less power consumption, and less cost. Now, as the industry is reaching 10nm node, TEL is making extensive efforts to achieve further miniaturization.

In addition to the conventional scaling method that shortens wavelengths of exposure, TEL is applying innovative technologies through the use of process tools, such as film deposition, coating, etching, and cleaning. Self-Aligned Multiple Patterning (SAMP) technology, for instance, forms a film on the sidewalls of an existing pattern to double the patterning density without changing the original pitch. By repeating this process, it further enables the doubling of the pattern density on a chip. TEL is also developing high precision tools for other self-alignment technologies to improve alignment accuracy in multiple patterning processes and improve etch consistency across wafers.

TEL is also conducting joint research and development with IMEC, a world-leading nanoelectronics research institute based in Belgium, to develop advanced patterning technologies. Backed by these efforts, TEL is working to introduce original patterning schemes using new semiconductor structures and materials, and contribute to advancements of miniaturization through our comprehensive process technology expertise.

Self-aligned multiple patterning (SAMP)



Principal systems supporting advanced patterning technology



Protecting and using intellectual property

TEL's fundamental tenet for intellectual property (IP) is to contribute to an increase in corporate revenues by supporting operations in both existing and new market sectors through IP protection. In line with this fundamental direction, TEL allocates IP personnel to product development centers and manufacturing facilities where research and development are performed, as well as to corporate headquarters where its sales and marketing departments are concentrated. These employees work closely with their departments to develop an IP portfolio in line with TEL's technological and product strategies. They also work to minimize the risk of IP disputes by monitoring the competitive environment.

To protect and use IP effectively in regions where TEL and its customers operate, TEL files patent applications in appropriate countries. The global application rate* at TEL has remained at around 70% for five consecutive years. In 2014 its patent application success rates in Japan and in the United States were 78% and 71.2%, respectively.

The strength of this IP portfolio strategy allows TEL to boost revenues by differentiating its products and enhancing its competitiveness.

* Percentage of applications for inventions filed in multiple countries

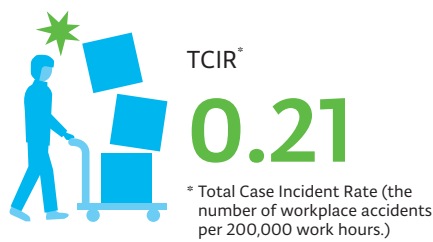
A large industrial facility, likely a semiconductor or flat panel display (FPD) production plant. Several workers in blue cleanroom suits and white boots are visible. One worker is crouching on the floor, while others stand near a large piece of machinery. A prominent green overhead crane system is visible, with a yellow platform suspended from it. The floor is marked with yellow lines, and there are various safety barriers and equipment throughout the space. The overall environment is clean and organized, emphasizing safety and precision.

Safety

Through our “Safety First” culture, we focus on keeping everyone safe and continually improving our working environments.

As a manufacturer of semiconductor and flat panel display (FPD) production equipment, TEL places the highest priority on the safety of everyone involved in its operations. Our objectives include providing safe products, continually improving the working environments, educating them about safety, and eliminating workplace accidents.

Highlights



Percentage of employees completing basic and advanced safety refresher training

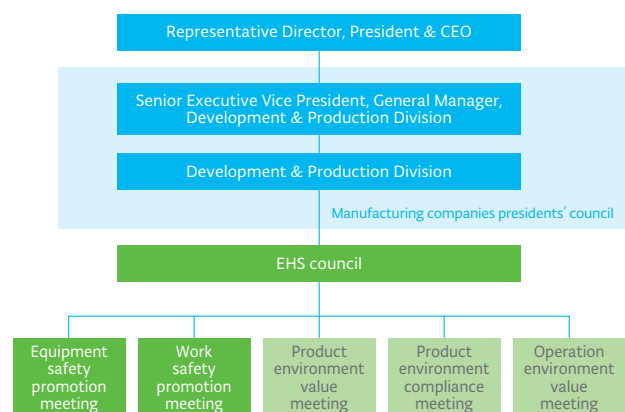
100%

Goals and results for fiscal year 2016

Theme	Goals	Results
Product safety	<p>Comply with local safety laws and regulations in a timely manner.</p> <ul style="list-style-type: none"> Appropriately address equipment safety compliance requirements through customer request for quotation (RFQ) process. Develop knowledge and skills of product safety engineers. Verify safety compliance of newly developed equipment. 	<ul style="list-style-type: none"> Responded to customer inquiries on specifications of emergency stop, material safety standards, remote operations, etc. Expanded service areas of product safety engineers to extend safety support. Continued safety compliance support for evaluation equipment.
Accident prevention	<p>Prevent accidents. If accidents occur, perform root cause analysis and share this information to prevent similar accidents.</p> <ul style="list-style-type: none"> Reduce Total Case Incident Rate (TCIR) by 38% over fiscal year 2014. Reduce incidents that could lead to serious injury by 50% over fiscal year 2014. Continue safety patrols, new fab safety checks, and dissemination of preventive measures. 	<ul style="list-style-type: none"> Attained a 38% reduction in TCIR. Number of incidents that could lead to serious injury: 12 in fiscal year 2016 compared to 8 in fiscal year 2014 (figures include incidents that did not result in serious injury or disease). Conducted safety monitoring and new fab safety checks globally. Disseminated preventive measures through Global Safety Council, Field Safety Council, Manufacturing Company Presidents' Council, etc.
Safety education	<p>Improve overall safety skills through practical training, etc.</p> <ul style="list-style-type: none"> Provide basic and advanced safety refresher training to all employees. Provide web-based accident prevention training to over 15,000 employees (cumulative). 	<ul style="list-style-type: none"> Provided basic and advanced safety refresher training to all employees globally. Provided web-based accident prevention training to 47,000 employees (cumulative).
Safety management	<p>Clarify policies and set organizational framework for sustainability program.</p> <ul style="list-style-type: none"> Implement the PDCA continual improvement cycle through the global EHS Council and through each company's Safety Council. Check and revise safety activities in all TEL companies. 	<ul style="list-style-type: none"> Evaluated the current situation of safety at TEL and implemented remedies and improvements through the global EHS Council.

Framework

Increasing the safety awareness of individual workers is crucial for providing worksites where everyone can work safely. To fully support our "Safety First" culture, TEL has established the equipment safety promotion meeting and the work safety promotion meeting under the supervision of the EHS council. The equipment safety promotion meeting revises TEL's design rules based on international laws and local regulations for equipment safety. It also determines TEL's compliance with new regulations and administers corrective measures. The work safety promotion meeting investigates work safety issues at customer sites and TEL Group locations and implements appropriate remedies. These meetings also examine incidents involving personal injury or property damage, determine whether the incidents were caused by equipment trouble or other work-related factors, and take measures to ensure similar incidents do not occur in the future.



Improving employee safety

Initiatives for safety improvement

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

At each TEL 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 a month at each manufacturing site as part of an overall systematic effort to solve problems at their sites.

Also, TEL has implemented a management system based on OHSMS¹ to identify and analyze potential workplace hazards. The knowledge obtained from this system is shared throughout TEL. Before starting work, all workers 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 perceive that workplace safety is at risk due to lack of preparation or an unplanned event, they are encouraged to stop work and implement any needed corrective action. Additionally, safety managers regularly give advice on how to manage hazards, further raising worker safety awareness.

As a result of these initiatives, the TCIR (Total Case Incident Rate) improved from 0.24 to 0.21.

¹ OHSMS: Occupational Health and Safety Management System. 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 PDCA (Plan, Do, Check, Act) processes for safety and occupational health management is drawn up and implemented on the employees' own initiative.

Safety education

To improve employee safety awareness, TEL provides a wide variety of web-based training.

In fiscal year 2016, TEL provided basic safety refresher training to all employees. Advanced safety refresher training was also provided. This advanced training used actual incidents as learning examples with a goal of preventing similar incidents from happening again.

To eliminate accidents, TEL also provides risk assessment training and 13 additional web-based training courses² (statistically proven to be effective) at offices and factories worldwide. TEL also provides safety information to suppliers as part of ongoing activities to prevent accidents.

² Web-based training courses focus on 13 themes: 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.

Response to workplace accidents

When a workplace accident occurs, TEL analyzes the cause, or causes, and takes appropriate countermeasures. In addition to the principal cause, further causes are also identified through multi-faceted analyses of the state of injured persons, facilities, environment, co-workers, and the actual work. The results are shared with the entire company through safety promotion meetings and other forums to prevent recurrence.

Workplace accidents that could lead to serious injuries are classified as critical workplace accidents, and their circumstances, causes, and remedies must be reported to the executive in charge. When concern is high, the accident is also reported to the President. Information about these accidents is shared at the global EHS council meetings to ensure organization-wide prevention efforts.

Improving customer safety

Giving assurance to customers

Because TEL's products often require the use of hazardous chemicals and high voltage electricity, TEL provides the relevant safety information to customers.

All products supplied by TEL come with a standard TEL Safety and Environmental Guidelines manual. This manual describes the risks associated with the use of TEL products by category, such as chemical, electrical, mechanical, and ergonomic, together with the methods for averting those risks. The manual also describes the safety measures built into the products and the recommended methods of product disposal. The manual is prepared in 10 languages including Japanese, English, five EU languages¹, and three additional Asian languages² to ensure the content is understood by a wide range of customers. Also, each product comes with a manual detailing the procedures for avoiding product-specific risks and securing safe operation and maintenance, thus providing an additional safeguard for customers.

TEL also assists customers in learning how to operate and maintain the equipment. Our training centers located in Japan and abroad offer practical skills training for TEL equipment. TEL also provides on-site training at customer sites.

When we deliver our products to new customer plants and production lines, we check the facilities, equipment, and workplace safety standards beforehand, as dictated by internal TEL rules. This process allows TEL to resolve any safety concerns and secure a safe working environment.

1 EU languages: German, French, Italian, Dutch, Russian

2 Asian languages: Korean, Chinese (traditional characters), Chinese (simplified characters)

Improving product safety

Initiatives for improving work safety

Taking the entire product life cycle into consideration, TEL carries out product risk assessments as early as possible in the development phase. Based on the assessment results, TEL implements intrinsically safe equipment design³ to reduce the risks posed to humans. TEL also examines and ensures compliance with changing laws and regulations around the globe, abiding by all safety regulations of the regions where our equipment is shipped, and allowing inspections by safety certification organizations as required.

3 Safe equipment design: Innovative machinery designs eliminates causes of machinery-related hazards posed to humans.

Safety education

In recent years, it has become increasingly important for TEL to ensure compliance with international safety standards and guidelines early in the equipment design and development processes. Since fiscal year 2008, TEL has been offering its engineers web-based training on safe equipment design. Through risk assessment exercises and examples of actual accidents, the participants acquire basic safety knowledge for equipment design. In fiscal year 2016, we revised the education program using updated information, including new safety standards. In addition to the training for design engineers, we are also promoting equipment safety education for all workers in areas such as manufacturing, start-up, service, and off-site logistics. This allows these employees to apply the knowledge to the handling of equipment as well as assist in the development of safer equipment. For fiscal year 2017, lectures and training by outside experts are also being planned.

A person wearing a white cleanroom suit, hood, and mask is using a handheld inspection device. The background is blurred, showing other people in similar attire. A green square with the word 'Quality' is in the top left corner.

Quality

Knowing our customers' real needs enables us to attain world-leading product quality.

Winning the trust and satisfaction of our customers requires precise understanding of their critical needs. TEL attentively listens to customers and uses this feedback to continually improve all aspects of operations, resulting in even higher quality products and services.

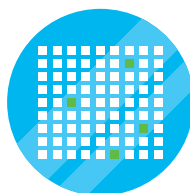
Highlights



Customer satisfaction survey

62%

Receive 3.0 or more points (Very Satisfied or Satisfied) on a 4.0 scale for 62% of questions.



Percentage of wafers with no-defect after introduction of TELeMetrics™

Up 2.3 percentage points

Goals and results for fiscal year 2016

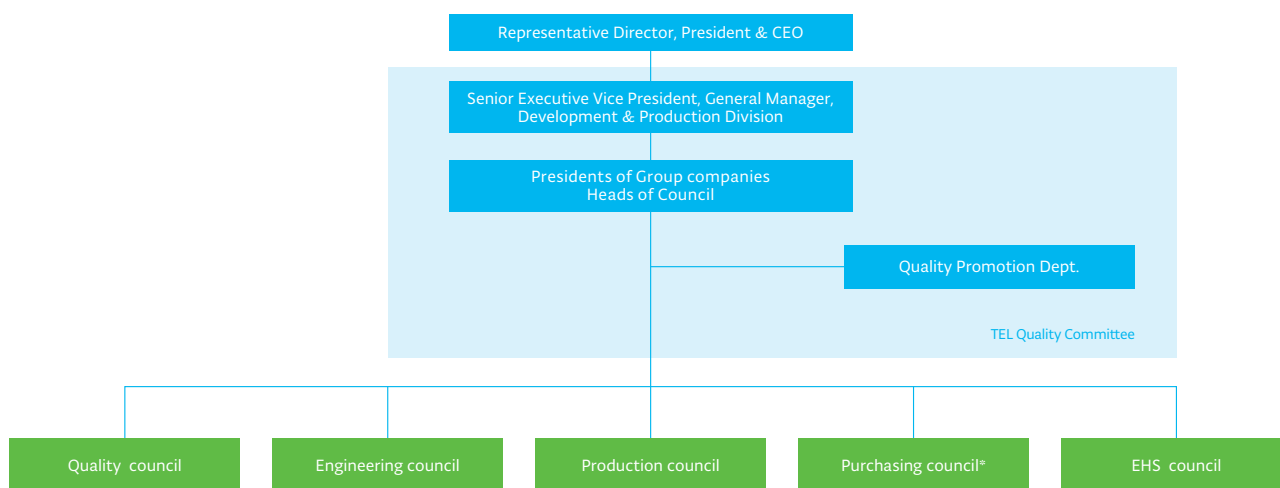
Theme	Goals	Results
Quality improvement	<ul style="list-style-type: none"> Reduce accidents that result in property damage. Reduce product-related accidents resulting in property damage by 20% year-over-year across the organization. 	<ul style="list-style-type: none"> Reduced these accidents by 14.5% year-over-year.
Improving customer satisfaction	<ul style="list-style-type: none"> Improve quality of equipment training. Score an average of 4.0 points or more on a 5.0 scale in trainee feedback. 	<ul style="list-style-type: none"> Scored an average of 4.6 points, receiving 4.0 points or more for all questions.
	<ul style="list-style-type: none"> Improve customer satisfaction. Receive 3.0 points or more on a 4.0 scale for all questions in the customer satisfaction survey. 	<ul style="list-style-type: none"> Received 3.0 points or more for 62% of questions.
Compliance	<ul style="list-style-type: none"> Compliance Implement the PDCA continual improvement cycle to check compliance with regulations and processes in TEL. 	<ul style="list-style-type: none"> Implemented compliance checks at 8 key sites.

Framework

TEL has a quality assurance framework headed by the Representative Director and President and supported by the Senior Executive Vice President in charge of Development and Production. Quality improvement, as well as other important quality issues and other shared concerns, are addressed through collaboration amongst TEL presidents and the Quality General Managers (GMs). To ensure efficient and stable quality control, TEL has five working groups in place, including the Quality council, Engineering council, Production council, Purchasing council, and EHS council. These working groups collaborate to pursue organization-wide quality assurance activities across all divisions.

To constantly maintain high quality standards, TEL has also been working since 1997 to acquire ISO 9001 quality management system certification at various sites. Ten sites (primarily manufacturing operations) have achieved this certification to date.

Thanks in part to our efforts under this framework, there were no legal or regulatory violations of TEL's products and services in fiscal year 2016.



* Official name: Purchasing department manager council

Product quality

Initiatives for improving quality

TEL is continually improving the quality of its products to win customer satisfaction and trust. An important statement from the quality policy is that “We build quality into every TEL product during the design phase by focusing on leading-edge technology. By bringing quality into our processes early and focusing on quality throughout all processes, we succeed in providing high quality products and services.” This is the foundation of our quality assurance activities.

Specifically, we have adopted the front-loading approach. This involves identifying and solving problems early in the product development and design processes to enhance design quality. In addition, we have expanded our training programs and established a system to verify skill levels in order to improve individual skills and design quality, ultimately ensuring proper identification of problems and appropriate analysis.

In addition, we implement in-process quality control¹ during each process—from development and design to shipment. Semiconductor production equipment consists of various components and modules, and assembly involves multiple processes. Making each of the manufacturing processes responsible for component quality is very effective, significantly reducing production costs and defects. Each of our process teams constantly seeks improvement, helping to produce superior products by taking ownership of quality assurance within a given process.

Because the quality of each component can affect the overall quality of the end product, we also focus on the quality of components early in the design phase. TEL's development and quality assurance divisions exchange information among themselves and with suppliers in order to improve the quality of drawings and purchase specifications. This also enables early sharing of component information. As a result, the quality of components has improved, leading to fewer component defects.

¹ in-process quality control: The idea that, at each process, employees take responsibility to ensure product quality with no defects

Education

To promote high-quality manufacturing in alignment with customer needs, TEL continually carries out cross-functional quality improvement activities with involvement of not only its development and design departments but also other departments such as planning, sales, administration and field service. As part of these efforts, we encourage TEL employees to obtain external quality certification. Administered by the Japanese Standards Association and the Union of Japanese Scientists and Engineers, the QM/QC Exam (Quality Management and Quality Control Examination) is a major quality certification, with more than 363,000 certification holders in Japan as of September 2015. The certification enables employees to improve their knowledge and skills in the area of quality control, improve the quality of their work, and provide customers with high-quality products. Starting in fiscal year 2012, this initiative has increased the number of certified employees each year to a total of 1,273 as of March 2016.

In addition, we are also educating our employees in the Plan, Do, Check, Act (PDCA) cycle. Although PDCA is most frequently used to improve management of production and quality, we have chosen to employ this method in every aspect of our business, not just in production activities. PDCA is already being used in many areas, driving process efficiency and greater value for our customers.

Response to quality problems

Despite our efforts to produce high-quality products with the front-loading approach, in-process quality control, and employee education, unforeseen quality problems occur from time to time. When any such problem is reported by customers, the information is fed into our proprietary Q-VICS knowledge management system. This information is distributed to the departments concerned, enabling information sharing and quick problem resolution. If disclosure of defect information is deemed necessary based on our internal criteria, we issue necessary technical documents and inform our customers.

For particularly serious problems, we employ the TEL 6-Step problem-solving model, a customized version of the eight discipline (8D) problem solving method¹ widely used in quality management. The TEL 6-step model enables systematic and highly reliable analysis of a problem to determine the root cause, leading to quick implementation of countermeasures and preventing recurrence of similar problems. We are currently training our personnel to actively use this method.

When a quality issue occurring in one business unit has the potential to affect other business units, we use a proprietary system called QABOX to prevent the problem from spreading. The system allows relevant information to be centrally managed on our secure network. The information is shared with quality assurance managers at TEL manufacturing companies and with the corporate quality division to discuss appropriate resolution. Following the discussion, critical information is reported to the corporate executive officer in charge of quality to quickly determine the future actions on the issue.

¹ 8D problem solving method: A quality improvement method for solving problems through eight disciplines or processes

Streamlining operations

Quality and productivity improvement through TPM

TEL has been implementing TPM² for over ten years. The purpose of TPM is to eliminate inefficiencies, waste, and loss, and thereby improve productivity. The TPM approach is playing a role in employee education and skill development and has been successfully integrated into our production lines. TPM activities that have produced outstanding results are shared with the rest of TEL at the annual TPM presentation. In fiscal year 2016, the participants included not only teams from Japanese manufacturing sites but also the first overseas presenters from Tokyo Electron (Kunshan) Limited (established in 2012).

² TPM: Total Productive Maintenance or Total Productive Management

Production division initiatives

At Tokyo Electron Miyagi Limited, the standard practice was to hold shipment of the equipment until all component modules were available. Because of this, many of the finished modules had to be kept in the clean room for an extended period, taking up precious production space. Accordingly, the team in Miyagi revised the process management practices during the production planning phase. They adopted a module-based rather than product-based logistics approach, ensuring no deterioration in the quality level. The change allowed the modules to be packaged and shipped as they were finished. At the same time, improvements were made in the loading area layout as well as in shipping list preparation and cargo packaging. This freed up even more production space and improved productivity while reducing lead time. Additionally, the new approaches have made it easier to respond to any changes in specifications that customers might require.

Administrative division initiatives

TEL is pursuing TPM not only at its production sites but also in its factory administration and sales departments. As a manufacturer of production equipment, we need to communicate our customers' technological needs for improving productivity (including system modifications and enhancements) to the Development & Production Division as quickly as possible. This allows us to share the information and respond with actual products. Accordingly, we have established a system capable of processing customer requests within 24 hours of receipt. We have also standardized the system modification formats and request forms in an effort to remove ambiguity in the requests. This has enabled the departments concerned to share highly specific information and respond more quickly to customer requests. To better manage requests for substantial modifications to our equipment, we have also improved the ordering system for products with long lead times to achieve faster delivery.

Consideration for customers

Customer satisfaction

Improving customer satisfaction

Accurately assessing customer needs is critical to providing quick, innovative solutions. TEL's policy on quality and service states, "TEL strives to understand the true needs of our customers to achieve customer satisfaction and secure customer trust while continuously improving quality and service." Under this policy, TEL has a customer satisfaction system headed by the President. This enables TEL to engage in various activities to offer high value-added products and services to meet customer needs now and in the foreseeable future.

Customer satisfaction survey

TEL conducts a customer satisfaction survey every year, with the goal of making continual improvements based on customer feedback.

The survey started in 2003 with a limited number of sales departments. Since then, TEL has made numerous improvements in the questionnaire, survey method and 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 the feedback can directly lead to practical improvements in the sales, development and production, and service divisions.

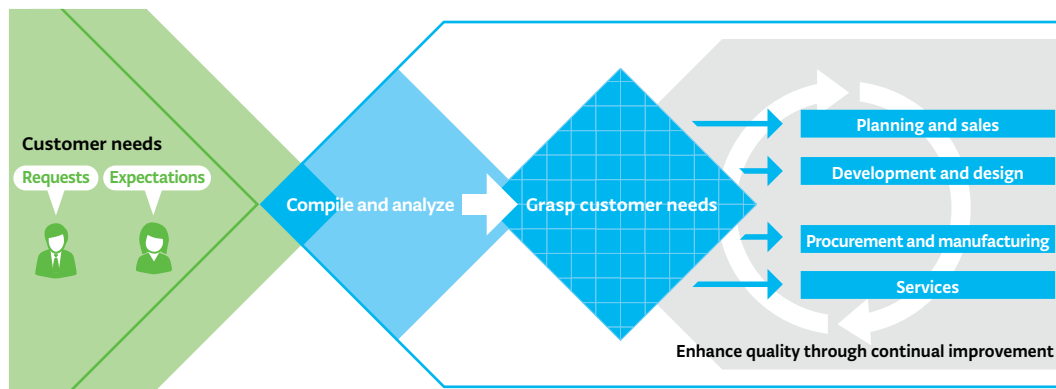
In the survey for fiscal year 2016, over 1,000 individual customers responded, and the results were satisfactory. On a 4-point scale (from 0 to 4), TEL received an average of 3 points or higher (Very Satisfied or Satisfied) on 62% of the questions. For questions that were rated below 3.0, we have analyzed the results to further improve the quality of our products and services.

Responding to customers' suggestions for improvement

Each year, we receive many important suggestions from our customers through this survey. The results are shared in a timely manner, not only by the management team but also by the sales, development and production, and service departments. When improvements are identified from the customer responses, we assign a responsible department for each area and implement corrective actions. In this manner, we make full use of the responses to the survey—both positive and negative—to improve our services and product development. We also regularly communicate the results of the survey and our plans for improvement to our customers.

By engaging in organization-wide PDCA activities on an ongoing basis, TEL provides comprehensive and innovative solutions to its customers.

Conceptual image of understanding customer needs



Improving customer productivity

In addition to providing high quality products to customers, TEL also recommends ways to operate the equipment most efficiently at customer fabs and offers optimization services.

TEL has introduced TELeMetrics, a service that connects the equipment installed at customer sites with TEL via a communications network, enabling TEL to monitor and analyze data to improve equipment performance. Specifically, the service takes advantage of TEL's unique technological insights and specialized analytic tools to multilaterally analyze data such as equipment functionality, component degradation over time, and product variability. This allows TEL to identify problems in real time and offer appropriate solutions. This service can significantly reduce the costs for installation, operation, and management of facilities and equipment. TELeMetrics also has a proven record of improving the overall efficiency of facilities at customer fabs.

For example, one customer reported that TELeMetrics successfully reduced the percentage of non-uniform wafers from 2.8% to 0.5%. As the yield improved, the customer could also reduce the impact on the environment and reduce costs.

Effects of TELeMetrics on the rate of wafer non-uniformity (%)*



* In low-pressure chemical vapor deposition (LP-CVD) processes

TEL receives Intel's prestigious SCQI award

TEL received Intel Corporation's prestigious Supplier Continuous Quality Improvement (SCQI) award in March 2016.

The SCQI award is part of Intel's Supplier Continuous Quality Improvement program to encourage Intel's key suppliers to strive for excellence and continual improvement. Only the highest performing suppliers receive this honor. TEL provides coater/developers, dry etch systems, wet etch systems, thermal processing systems, deposition systems, and test systems, all essential to Intel's success. TEL was selected as one of eight companies to receive this honor. The award illustrates TEL's exceptional performance in attaining Intel's goals in 2015 and demonstration of industry-leading commitment across all critical focus areas measured: quality, cost, availability, technology, customer service, labor and ethics systems, and environmental sustainability. This was the 16th consecutive time that TEL received this quality award, and we intend to keep demonstrating stellar performance on cost competitiveness, leading-edge technology, quality programs, and outstanding customer service.



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* Other names and brands may be claimed as the property of others.



Photo: Chip Holley Productions



Procurement

We value a trust-based relationship with our suppliers and collaborate together for mutual growth.

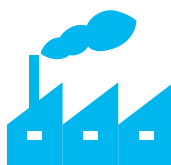
Manufacturing high value-added products is TEL's unwavering goal, achieved only if all components and materials function as planned to enhance overall product quality. We seek to be fair with our suppliers, and value mutual trust and growth.

Highlights



Percentage of suppliers who showed improvements in the supply chain CSR assessment

34%



Number of CFSP-certified smelters

204
companies



Percentage of suppliers who showed improvements in the supply chain BCP assessment

27%

Goals and results for fiscal year 2016

Theme	Goals	Results
Promotion of CSR program	<ul style="list-style-type: none"> Conduct the third Supplier CSR Survey with key suppliers, those suppliers that account for more than 80% of our procurement spend. 	<ul style="list-style-type: none"> Conducted Supply Chain CSR Assessment with key suppliers, those accounting for more than 80% of procurement spend. Improvements were observed in 34% of suppliers.
Conflict minerals	<ul style="list-style-type: none"> Conduct the second conflict minerals survey. Improve data accuracy. 	<ul style="list-style-type: none"> Conducted a conflict minerals survey with our principal suppliers using the CFSI¹ reporting template. Identified 204 CFSP²-certified smelters. Improved the percentage of known CFSP-certified smelters covered in our operations (99.5%).
BCP	<ul style="list-style-type: none"> Conduct the fifth procurement BCP survey with key suppliers, those accounting for more than 80% of our procurement spend. 	<ul style="list-style-type: none"> Conducted a Supply Chain BCP Assessment with key suppliers accounting for more than 80% of our procurement. Improvements were observed in 27% of suppliers. Implemented improvement activities at suppliers with low scores.

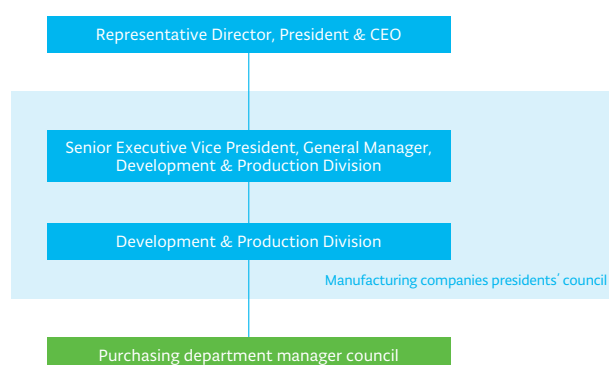
1 CFSI: Conflict-Free Sourcing Initiative. Founded by members of the EICC and GeSI (Global e-Sustainability Initiative), the CFSI inspects 3TG smelters to certify they do not have conflict minerals.

2 CFSP: Conflict-Free Smelter Program. The CFSP is promoted and led by the CFSI.

Framework

To maintain a robust supply chain capable of supporting streamlined product manufacturing, TEL has instituted a procurement policy and established a system for administering fair procurement practices based on mutual trust with suppliers. Under the TEL Representative Director and President as the top of the procurement system along with the Senior Executive Vice President in charge of development & production, the manufacturing companies presidents' council and the purchasing department manager council are convened to share information on various procurement issues.

The council also serves as a venue to address current problems and discuss approaches to improve partnership with suppliers.



Sustainable supply chain

BCP framework

As part of its business continuity plan (BCP), TEL collaborates with its suppliers for disaster preparation. When crises arise, a database of our suppliers' production sites plays a major role in our response. The database is updated annually to help promptly identify impacted suppliers and quickly take recovery steps following a disaster. The system was introduced in 2011 and is now firmly established with our suppliers. In fiscal year 2016, the database contained information about 14,000 locations. The information was used to assess the impact of six disasters that occurred during the year.

TEL also conducts an annual survey on our suppliers' business continuity plans. In fiscal year 2016, key suppliers, accounting for more than 80% of our procurement spend, were asked to participate in a procurement BCP survey. We found that 27% of suppliers showed improvement over the previous year. Survey results were shared with suppliers to promote further improvement.

CSR procurement

TEL aims to build and maintain a robust and sustainable supply chain. To achieve this goal, we have established a procurement policy that requires strict compliance with labor laws and regulations and respect for fundamental human rights (including prohibitions against child labor and forced labor). Suppliers are required to abide by this policy. Additional documents regarding our compliance with the EICC Code of Conduct are posted on the TEL website where information about our "green" procurement guideline-based environmental activities is also available.

In fiscal year 2016, we conducted a Supply Chain CSR Assessment for our key suppliers, who account for more than 80% of our procurement spending. The assessment, which evaluates the compliance with the EICC Code of Conduct, showed year-over-year improvements in 34% of suppliers. The assessment included a questionnaire on child labor, forced labor, bonded labor, inhumane treatment, false reports, falsification of records, and bribery. The answers we received indicated that none of our suppliers were engaged in these practices. Also, none of our suppliers had a sufficient number of employees* to be considered high risk in terms of compliance. As with the BCP survey, the assessment results were shared with suppliers to encourage additional improvement.

* 500 employees or more

Conflict minerals

TEL considers taking action against conflict minerals¹ an important part of its corporate social responsibility. Conflict minerals are illegally mined and give rise to poor working conditions and human rights violations. Our goal is to eliminate the use of raw materials and components containing conflict minerals.

In fiscal year 2016, we conducted our second annual survey on countries of origin and smelters of potential conflict minerals (3TG: tantalum, tin, tungsten, and gold), using the CFSI reporting template. As a result, we identified 204 CFSP-certified smelters, providing us confidence that 3TG sourced from these smelters were conflict-free. None of the materials that TEL procured were found to contain conflict 3TG. This survey will continue every year, with the cooperation of our suppliers, to further improve the quality and accuracy of the survey.

¹ Conflict minerals: Minerals mined in the Democratic Republic of the Congo (DRC) and neighboring countries used to finance armed groups or minerals mined in other conditions where human rights abuses and labor problems occur. The term commonly applies to four minerals: tantalum, tin, tungsten, and gold.

Supply chain communication

Cooperation with suppliers

In addition to daily communications, TEL holds Production Update Briefings and a TEL Partners Day to enhance relationships with suppliers. At these events, we present and exchange information on the management plans, market trends, business policies, and CSR initiatives. We also ask for continued cooperation in strengthening our supply chain, and honor outstanding suppliers to express our appreciation for their constant support.

Strong quality management at suppliers is essential to improve product quality. Since 2000, we have regularly conducted a Supplier Total Quality Assessment (STQA) to clarify what is expected of our suppliers in terms of maintaining and improving quality. Before starting business with new suppliers, an STQA is conducted to evaluate their handling of product quality, cost, information security, and CSR issues (including human rights, ethics, safety, and the environment). The entire management system is comprehensively assessed. After we have an existing business relationship with suppliers, they are asked for a similar self-assessment every three years. If the results do not meet TEL standards, TEL-certified auditors visit the supplier to explain the problems revealed by the assessment. Once the supplier understands the issues, they are asked to implement improvement measures in line with our written requests for improvement. TEL internally keeps track of all requests and improvement measures, offering continual support to suppliers until all necessary improvements have been made.


TEL is also partnering with our suppliers to implement a TPM program. The production of any piece of equipment involves a number of supplier processes. In the TPM program, supplier shop floor improvement teams collaborate with TEL employees to enhance productivity and product quality. In one example, the program led to a 30% reduction in the number of steps required to assemble modules and systems. The program also plays a key role in educating supplier improvement team members.



TEL Partners Day

Cooperation with industry organizations

In June 2015, TEL joined the EICC, an electronics industry coalition on CSR. EICC participation includes adopting the EICC Code of Conduct, a set of standards to improve labor practices, health and safety, environmental impact, and ethics in the electronics supply chain. TEL adheres to the EICC Code of Conduct to maintain and strengthen its supply chain, in cooperation with other EICC member companies.



Our people and workplace

TEL provides a workplace filled with dreams and vitality where employees can reach their full potential.

We strive to create a workplace where employees are engaged and collaborate as a cohesive team of creative and responsible individuals. We also provide challenges to develop our employees and distribute compensation in a fair manner based on performance. We respect basic human rights and have mutual respect for our diverse values. This allows us to utilize the full potential of our employees and build a dynamic organization.

Highlights*



* Target: All TEL companies in Japan

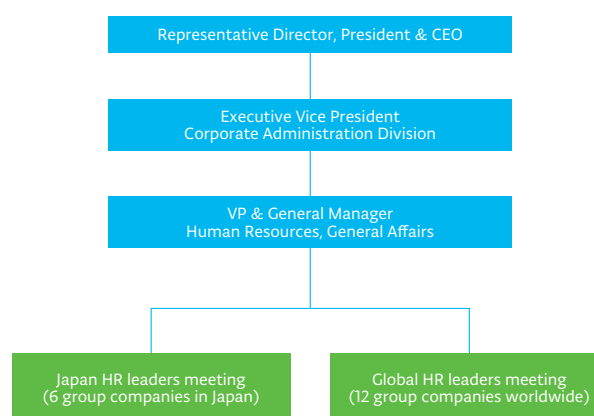
Goals and results for fiscal year 2016

Theme	Goals	Results
Diversity	<ul style="list-style-type: none"> Leverage diverse workforce and help individuals unleash their full potential. 	<ul style="list-style-type: none"> Planned and implemented the Global HR Project.
	Pursue diversity management; understand and respect different values. <ul style="list-style-type: none"> Understand and respect cultural values in global operations. 	<ul style="list-style-type: none"> Implemented employee training in management and communication skills.
	<ul style="list-style-type: none"> Provide work environments that empower women. 	<ul style="list-style-type: none"> Analyzed issues related to empowerment of women and formulated an action plan.
Work-life balance	Support work-life balance. <ul style="list-style-type: none"> Offer support systems to improve working behavior to achieve a better balance between work and personal life. 	<ul style="list-style-type: none"> Conducted a self-declaration questionnaire.

Framework

TEL maximizes its corporate value by maintaining an open and dynamic organization that enables all employees to apply their abilities to the fullest extent. TEL is also optimally structured to be flexible and respond quickly to any changes in the operating environment.

The HR (human resources) departments at the head office and in the various TEL companies work closely together on personnel issues, convening the Japan HR leaders meeting¹ every month and Global HR leaders meeting² twice a year. These meetings serve as the forum for sharing corporate missions, setting goals, communicating activities, and discussing key issues. Under this management framework, our HR departments identify risks from an organization-wide perspective and make sure appropriate measures are implemented throughout TEL.



¹ Japan HR leaders meeting: A meeting comprising the heads and principal managers of HR departments at Japanese Group companies

² Global HR leaders meeting: A meeting comprising the heads and principal managers of HR departments at worldwide Group companies

Realizing an engaging work environment

Principles on diversity

TEL operates globally through 38 subsidiary companies (at 74 locations in 16 countries and regions), with overseas sales of semiconductor production equipment accounting for over 80% of our total sales. In this operating environment, TEL is making every effort to enhance our energy and creativity by ensuring that our diverse workforce can realize its full potential regardless of gender, age, race, special needs, or religion.

As part of this endeavor, TEL is focused on establishing an inclusive working environment for people with disabilities, and implemented a project to promote their employment in fiscal year 2016. As a result, the proportion of employees with disabilities in fiscal year 2016 was 1.96% at TEL headquarters and 1.98% at all TEL companies in Japan.

Initiatives for work-life balance

TEL has a refreshment leave system that offers employees with 10 years or more of continuous service a special paid leave every five years, ranging from two weeks to one month*. The purpose is to encourage employees to refresh their body and mind so they can fully utilize their abilities when they return to work. In fiscal year 2016, 1,045 employees in Japan took the leave.

TEL has also enhanced our family and medical leave systems, enabling employees to navigate through various life events and maintain their employment and careers.

TEL's childcare support system in Japan allows employees to extend their leave until a child's third birthday. Also, TEL gives guardians of children 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, 42 employees (or 93% of those eligible) took childcare leave in fiscal year 2016, and 46 returned to work after taking childcare leave during previous years. About 35% of female TEL employees in Japan are successfully balancing work and family as working mothers.

* 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.

Employees' voice: On child care leave for men

When my first baby was born, I took a leave of absence to care for our child for about a month. My colleagues were supportive by helping the transition and allowed me to go on leave with few worries.

The fact that I was taking child care leave was very reassuring for my wife as she faced the challenge of giving birth. I was also able to spend a lot of time with my wife and our newborn, and could help with household chores.

It is great that TEL not only has a program for child care leave, but also an environment that encourages men to take it. I recommend my male colleagues take advantage of this benefit and participate more actively in raising their children.



Toyohiro Kamada
Development Department 1,
Tokyo Electron Tohoku Limited

Employee motivation

Highly motivated employees are essential to a workplace filled with dreams and vitality. That is why TEL provides a wide range of HR development programs, including career building for individual employees.

The Global Engagement Survey is conducted annually for all TEL employees. The anonymous survey results help improve the organization and ensure proper use and management of our human resources.

To improve engagement, a self-declaration questionnaire on desired career paths and reassignment is provided to all employees once a year. Private consultation is offered to those who request it.

In addition, each year TEL presents the Employee Excellence Award. The award recognizes employees who have achieved outstanding results during the year, based on nominations by respective departments. In fiscal year 2016, 17 TEL employees both in Japan and abroad received the honor.

Human resource development

TEL UNIVERSITY

To enhance its HR development and organizational capabilities, TEL has established a corporate educational institution called TEL UNIVERSITY. Its 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 year 2016

In fiscal year 2016, a number of on-demand programs for learning English were introduced for employees whose work involves global interactions. Examples include: consultations in work-related practical English, team-based classes in English, self-paced online courses, and a learning method seminar. In addition to language courses, support for e-learning and correspondence courses on other subjects was also made available.

The TEL University also organized workshops by TEL's experts in specialized technologies, and training for new employees was enhanced by taking full advantage of internal skills and talents. A joint group training course for young employees offered an opportunity to reflect on their current work and to take their careers to the next level.

Life design seminars were offered for employees who were aged 51 or over as they neared retirement. The program used concrete examples and Q&A sessions to show what preparations were needed before the retirement is reached, helping the participants to clear up any doubts and worries they may have on the subject.

Example of programs hosted by TEL UNIVERSITY

Number of participants by program for fiscal year 2016

English conversation classes	2,775 in total
Support for self-learning language study	440
Workshop for engineers	183
Semiconductor seminars (12 classes)	141
Training for young employees	215
Life design seminars	276

Improving employee health and work environment

Initiatives based on wellness declarations

TEL places the highest priority on the health and safety of its employees, and issued a wellness declaration in February 2012. Based on this declaration, TEL is conducting a number of ongoing wellness promotion programs, including walking events, healthy food choice initiatives for company cafeterias, and body composition measurement sessions.

Other ongoing initiatives for workplace wellness promotion include health help desks, supported by doctors, and regular counseling services supported by clinical psychologists.

In fiscal year 2016, various events were organized according to the specific needs of each location. Of these, a nutrition seminar held for employees in the Akasaka (Japan headquarters) was particularly well received, as it helped them to understand the importance of improving their diet.

Introduction of stress checks

Effective December 2015, Japanese companies were mandated by law to offer stress checks to employees. This involves testing the employees' stress levels regularly and informing the employees of the results to raise their stress awareness. The goal is to reduce mental health risks and improve working conditions through analysis of aggregate results. TEL is planning to implement the first stress check in July 2016, and is currently preparing the implementation plan, methods, and manuals.

Long Term Disability insurance coverage

In fiscal year 2016, TEL started providing Group Long Term Disability (GLTD) insurance coverage to companies in Japan. Under this plan, workers who become unable to work due to illness or injury can receive partial income replacement benefits, allowing them to focus on recovery.

All TEL employees, excluding part-time and temporary workers, are covered in this plan. It includes both standard coverage, paid for by TEL, that provides 50% of the employee's standard monthly remuneration to qualified employees, and optional coverage that provides additional monthly benefits of 10% to 30% of standard monthly remuneration that can be purchased by individual employees.

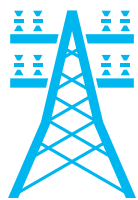


Environment

Under the slogan of “Technology for Eco Life,” we help solving environmental issues through our leading-edge technologies and services.

In the world today, there are various environmental concerns, including climate change, depletion of energy and natural resources, pollution by chemicals and waste, and decline in biodiversity. TEL helps solving these issues through our leading-edge technologies and services.

Highlights



Energy consumption level of a new equipment model compared to a previous generations

40%

The latest TiN metallization system reduced energy consumption by 40% compared to previous model.



Reduction of water consumption

65%

The Koshi factory in Kumamoto reduced water consumption by 65% during equipment evaluation process.



Environmental education

5,000 people

About 5,000 employees took a web-based education course on environmentally friendly design.

Goals and results for fiscal year 2016

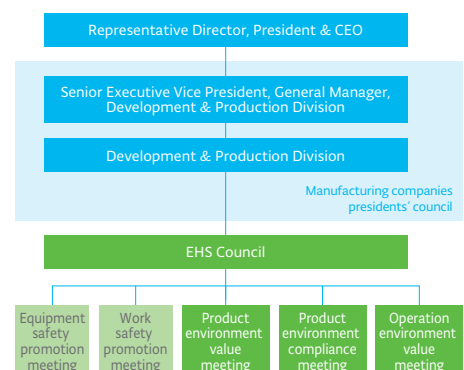
Theme	Goals	Results
Products	Reduce environmental impact of products. <ul style="list-style-type: none"> Develop a roadmap for understanding the current situation and achieving the goals for fiscal year 2019*. * Reduce energy and pure water consumption per wafer by 10% (using fiscal year 2014 as the baseline). 	<ul style="list-style-type: none"> Completed assessment of current situation of products manufactured in Japan and completed future roadmap.
	Comply with Chinese RoHS. <ul style="list-style-type: none"> Implement initiatives globally. 	<ul style="list-style-type: none"> Integrated compliance initiatives for Chinese RoHS with environmental product compliance initiatives in other countries.
	Promote voluntary product compliance with European RoHS. <ul style="list-style-type: none"> Maintain the percentage of compliant parts in major models of each business unit at 98.5% or greater. 	<ul style="list-style-type: none"> Goal was achieved and the results were tallied.
	Comply with the environmental regulations of each country. <ul style="list-style-type: none"> Continue to ensure products comply with environmental regulations (including China RoHS, GHS, etc.) 	<ul style="list-style-type: none"> Conducted initiatives on an ongoing basis and expanded the scope of these activities to production sites outside Japan.
Factories and offices	Promote energy efficiency. <ul style="list-style-type: none"> Reduce energy consumption by 1% year-over-year. Continue activities. 	<ul style="list-style-type: none"> Of the 12 sites in Japan and abroad with an established goal, 7 sites successfully reduced energy consumption by 1% year-over-year.
	Reducing water consumption <ul style="list-style-type: none"> Maintain recycling rate at the fiscal year 2012 level for Japanese sites, and at the base year level for overseas sites. Continue activities. 	<ul style="list-style-type: none"> Attained 11 out of 15 goals set for Japanese and overseas sites.
	Waste recycling <ul style="list-style-type: none"> In Japan: Attain a recycling rate of 97% or higher. Outside Japan: Attain a higher recycling rate year-over-year. 	<ul style="list-style-type: none"> In Japan: Attained a recycling rate of 98.4%. Outside Japan: Attained an increase of 0.3 percentage point year-over-year at manufacturing sites.
Procurement and logistics	Green procurement <ul style="list-style-type: none"> Continue activities. Plan activities based on analysis of survey results, conduct the third green procurement survey, and improve evaluation of low-scoring suppliers. 	<ul style="list-style-type: none"> This year's green procurement survey was integrated with the Supply Chain CSR Assessment.
	Reducing the environmental impact of logistics <ul style="list-style-type: none"> Continue activities. 	<ul style="list-style-type: none"> Continued activities and monitoring.
Environmental management	Environmental management system <ul style="list-style-type: none"> Adhere to the revised ISO 2015 standards. 	<ul style="list-style-type: none"> Established an in-house project to adhere to the revised ISO 2015 standards and consolidate the environmental management systems for sites in Japan.
	Environmental education <ul style="list-style-type: none"> Provide web-based education on environmentally friendly design. 	<ul style="list-style-type: none"> Provided web-based education to approximately 5,000 employees.
	Environmentally friendly design <ul style="list-style-type: none"> Implement education programs at design and procurement departments. 	<ul style="list-style-type: none"> Programs implemented as part of the environmental education mentioned above.
	Environmental communication <ul style="list-style-type: none"> Continue to publish Environmental and Social Report. 	<ul style="list-style-type: none"> Continued to publish the report.
	Biodiversity <ul style="list-style-type: none"> Based on the guidelines, conduct ecosystem tours multiple times at each factory in Japan. Hold symposiums. Create a list of conservation activity targets in key areas. 	<ul style="list-style-type: none"> Conducted ecosystem tours in each area. Held symposiums. Created a list of conservation activity targets in key areas.

Framework

TEL promotes environmental activities across TEL through its corporate EHS Promotion Department. TEL executives appoint members to the product environment value meeting, the product environment compliance meeting, and the operation environment value meeting, all of which carry out activities to achieve our environmental goals. The EHS council convenes twice a year to assess progress toward our environmental goals and encourage continued improvement.

Since 1997, we have been working to obtain certification for the ISO 14001 environmental management standards. Seven sites, including many of our manufacturing subsidiaries, are currently certified. In fiscal year 2017, we plan to adhere to the revised ISO 2015 standards by consolidating the environmental management systems of our subsidiaries. Our Japanese systems will be consolidated first, followed by the overseas systems.

Through these efforts we continue to assess our compliance with environmental laws, emission standards, and other voluntary standards. TEL has not been involved in any environmental incidents or accidents. We have not been in violation of any environmental laws or subject to any associated legal proceedings in fiscal year 2016.

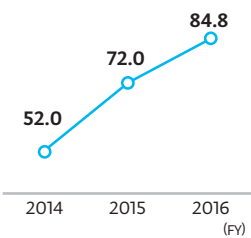


Product initiatives

Environmentally friendly products

The total CO₂ emissions from the TEL value chain (including raw material procurement and product manufacture, transport, use, and disposal) was calculated according to the greenhouse gas (GHG) protocol. Emissions arising from product use currently account for 90% of our total emissions. For this reason, TEL has made it a key corporate objective to promote environmentally friendly product design and has been striving to lower the energy consumption of its products. In fiscal year 2015, TEL established a goal to reduce energy and pure water consumption by 10% by fiscal year 2019 (using fiscal year 2014 consumption as the baseline). In fiscal year 2016, TEL expanded the scope of this program to include products produced by its overseas subsidiaries. TEL also monitored TEL’s global energy use while seeking to improve overall throughput. In addition, the percentage of sales of energy-saving models* increased to 84.8% of the total product sales.

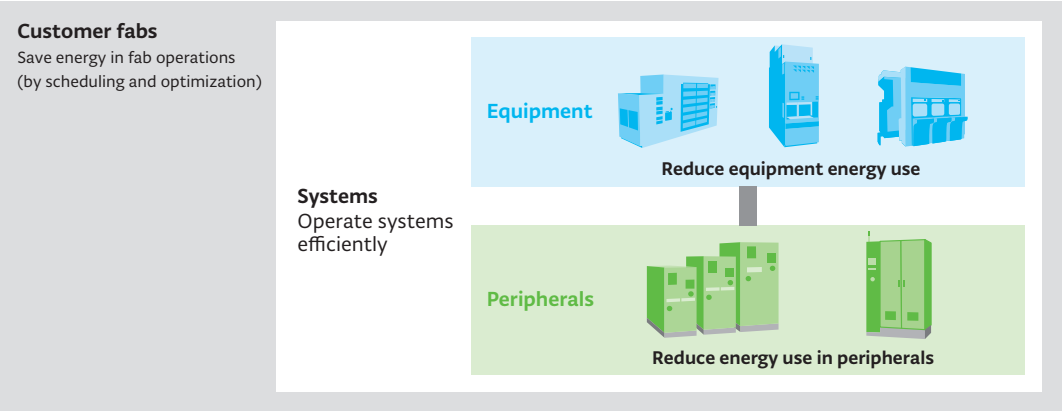
Percentage of energy-saving model sales in total sales



To reduce the overall environmental impact of our products at our customers’ sites, we must examine our primary equipment, peripherals, associated facilities, and management of our own factories. Increasing the operational efficiency of the entire production system is increasingly important, along with encouraging energy-efficient operations of our customers’ sites. We will continue to focus on monitoring and controlling our energy use. We also plan to demonstrate the importance of energy saving measures through compliance with SEMI S23, a semiconductor industry standard for assessing energy conservation.

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

* Based on in-house standards



Energy conservation features of TiN metallization system

Thin film deposition is a key process in semiconductor manufacturing. Conventionally, chemical vapor deposition (CVD) ¹ was the technology of choice for this process; however, the need for continued semiconductor miniaturization from our customers called for development of new equipment based on the Advanced Sequential Flow Deposition (ASFD)² process technology. This new technology not only enables deposition of nanoscale film with highly engineered properties, but can also be implemented at temperatures lower than those for CVD, making it a superior deposition technology in terms of energy conservation.

1 CVD: A method for depositing thin films on substrates by decomposing source materials using thermal and/or chemical processes.

2 ASFD: Advanced Sequential Flow Deposition, a low-temperature processing method for forming nanoscale metal films with highly-engineered properties.

TEL’s TiN metallization system was developed in response to this shift in process technologies. Due largely to its low temperature processing and idle-time energy conservation feature, the system achieved a 50% reduction in per wafer energy consumption in fiscal year 2014 as compared with its performance in fiscal year 2008.

The latest Triase[™] EX- II[™] TiN Plus model features a newly developed reactor chamber and unique gas injection mechanism to attain significant improvement in throughput while reducing the energy consumption level to 40% of the previous model. As a result, the new model achieved the corporate target of reducing energy consumption per wafer by 10% from the fiscal year 2014 level. This is three years ahead of the fiscal year 2019 deadline.

Management of chemical substances contained in products

To achieve our goal of manufacturing environmentally friendly products, TEL has set up a system for managing hazardous chemicals in our products. In addition, we proactively collect information on relevant laws and regulations in Japan and abroad to properly ensure compliance. For example, 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 REACH¹ regulations. We also provide safety data sheets (SDS) on the chemicals we use, in accordance with GHS² requirements.

To comply more effectively with regulations such as REACH and China RoHS³, in April 2015 we conducted a survey of our Japanese suppliers regarding the chemicals contained in their products based on the JAMP AIS⁴.

In fiscal year 2016, we expanded the previous year's Seminar on Design for Environmental Compliance and offered the course not only to managers but also to staff members from relevant departments. The seminar consisted of an overview of frequently revised environmental laws and regulations, lectures on target chemicals, and comprehension tests. About 5,000 employees took the course during the fiscal year.

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

1 EU REACH: EU Registration, Evaluation, Authorization and Restriction of Chemicals. An EU regulation pertaining to the registration, evaluation, authorization, and restriction of chemicals.

2 GHS: Globally Harmonized System of Classification and Labeling of Chemicals

3 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.

4 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.

Logistics initiatives

Transport regulations are becoming more stringent due to worldwide environmental concerns such as global climate change and the rising demand to reduce the environmental burden of logistics activities. TEL has been implementing modal shifts⁵ to use less environmentally harmful means of transport where applicable. For example, we have adopted ocean shipment for some semiconductor and FPD production equipment, and we are making efforts to reduce production lead time to compensate for the extra time it takes to ship by ocean rather than by air. We have extended the use of shelved trolleys from the shipment of FPD production equipment to semiconductor production equipment as well, thereby improving the load factor of trucks and reducing both CO₂ emissions and costs.

Our CO₂ emissions in fiscal year 2016 were 65 kilotons, down about 11% year-over-year. This is primarily due to the increase in the ratio of outbound international ocean shipments.

To conserve resources, we are using recyclable cardboard boxes for packaging. After equipment has been shipped and installed, casters and other specialized transport fixtures are collected and brought back to TEL factories for reuse. These are only a few examples of TEL's resource-saving efforts.

5 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.

Product reuse and recycling

As the need for more varied semiconductor production equipment increases, TEL is encouraging reuse and recycling of equipment and components by marketing refurbished TEL equipment and offering modification services to customers who have TEL equipment already installed.

Our refurbished equipment operations start with procuring used equipment from the market. This equipment is then properly tested and refurbished, before being offered to customers as TEL Certified Used Equipment. Our equipment modification services boost the productivity of installed equipment by maintaining and improving its quality and availability. Through these approaches, we address our customers' cost, speed, and performance needs, while also contributing to waste reduction and resource conservation and utilization. These efforts help reduce the use of resources and CO₂ emissions associated with procuring and manufacturing equipment and components. They are also effective in reducing the costs of production, logistics, and waste disposal.

Factory and office initiatives

Initiatives to prevent global warming and save energy

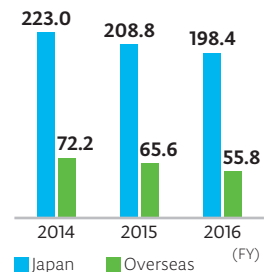
Each TEL factory and office has an established company goal of reducing energy consumption by at least 1% year-over-year. Initiatives to achieve these goals include energy-saving clean room operation, optimum temperature settings for office cooling and heating, and the introduction of highly energy-efficient equipment.

Photovoltaic power generation systems have been installed at some of our factories and offices in Japan, and the renewable energy they generated in fiscal year 2016 totaled 4,486 MWh. Tokyo Electron U.S. Holdings, Inc. has also been purchasing green electricity since 2001. Green electricity usage totaled 3,833 MWh in fiscal year 2016.

Out of the 12 TEL factories and offices worldwide with reduction goals, 7 achieved them in fiscal year 2016. Organization-wide power consumption in fiscal year 2016 was 254 GWh, down 7% year-over-year, and CO₂ emissions from energy consumption* were 147 kilotons, down 8% year-over-year.

* In calculating CO₂ emissions, the emission factor for TEL's electricity consumption in Japan in fiscal year 2016 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).

Electricity consumption
(Million kWh)



Example of initiatives

The Hosaka factory in Yamanashi installed a new air conditioning control system for its clean room. The atmosphere in a clean room must be precisely controlled, not only for cleanliness, but also for temperature and humidity. When controlling temperature and humidity, overcooling should be avoided, because overcooling must be compensated for by heating, which increases wasted energy. The newly installed system accurately monitors the atmospheric temperature and humidity inside and outside of the clean room and enables the air conditioning equipment to operate in an energy-efficient manner. As a result, the Yamanashi Factory saved about 670 MWh of electricity (335 tons of CO₂) and 140 kl of heating oil (350 tons of CO₂) in a year, reducing CO₂ emissions by 685 tons. The factory estimates that the system upgrade costs can be recovered within three years.

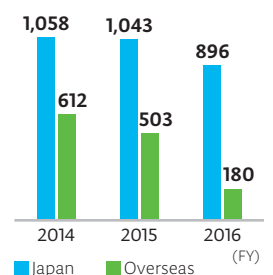
Initiatives to reduce water consumption

TEL has established a goal of keeping water consumption at the same level or below that of a baseline year (fiscal year 2012 for factories and offices in Japan, and a fiscal year of their choosing for overseas operations). In fiscal year 2016, we achieved 11 out of the 15 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 30% year-over-year to 1,076,000m³ in fiscal year 2016, due in part to the closure of some overseas facilities. In fiscal year 2016, we discharged an estimated 905,000m³ of wastewater.

Example of initiatives

In fiscal year 2016, the Koshi factory in Kumamoto opened a facility for reusing water discharged from the semiconductor production equipment evaluation process, reducing water consumption by about 65%. The plant expects to recover its investment for this facility renovation in 1.8 years or less. In another example, the Fuchu Technology Center in Tokyo installed water-saving devices in the restrooms and the kitchen, reducing the overall water consumption by 12% year-over-year.

Water consumption
(thousand m³)



Initiatives to reduce waste

TEL is contributing to waste reduction and recycling whenever possible by sorting waste, switching to waste-free production processes, and disposing of non-recyclable waste in an appropriate manner. TEL actively advocates waste sorting, and some of its facilities have participated in the electronic manifest system¹ to ensure proper waste management. In fiscal year 2016, the amount of incinerated and landfill waste generated by TEL in Japan was 122 tons. As a result of our waste-reduction initiatives, the recycling rate² at sites in Japan in fiscal year 2016 was 98.4%, achieving our goal of maintaining a recycling rate of 97% or higher for the 10th consecutive year. The recycling rate for TEL's overseas factories and offices was 87.9% in fiscal year 2016.

Example of initiatives

TEL FSI, Inc., in Chaska, Minnesota, takes waste recycling measures, such as eliminating the use of disposable plastic cups and composting paper towels. As a result, TEL's recycling rate for 2015 increased to 70%, an increase of 6% from 2014.

Management of chemical substances

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 PRTR³ law are consistently monitored and managed. Whenever we introduce a new chemical substance or change the way an existing substance is used, we check for environmental, health, and safety risks beforehand. We dispose of hazardous substances properly after use, either through expert waste disposal contractors or by using in-house processing equipment. In response to the April 2015 revision to the Fluorocarbons Recovery and Destruction Law, we have been conducting simple, regular inspections to monitor the amount of fluorocarbons that have been released and have been used in equipment as a refrigerant and the amount that has been recovered. In fiscal year 2016, our factories and offices did not exceed the level of fluorocarbon leakage that requires reporting.

Biodiversity

TEL's activities impact biodiversity while also benefiting from it. In recognition of this, we are making efforts to conserve biodiversity and improve the conservation system.

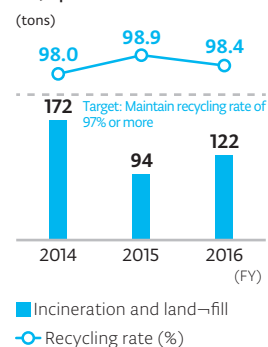
In fiscal year 2016, as in 2015, TEL met our goal of conducting at least two ecosystem tours at our Japanese sites, as part of our biodiversity conservation activities. The Koshi factory in Kumamoto held a lecture on biodiversity and biomimicry⁴, as well as an ecosystem tour of the property surrounding the plant, guided by members of the Forest Instructors Association of Kumamoto Prefecture. The tour's participants observed nearly 50 different plant species, and learned about the plants' characteristics. In addition, TEL drew up a list of targets for its conservation activities for fiscal year 2017, assessing the impact of previous ecosystem tours and consulting the Red List⁵ of threatened species in the prefectures where TEL's offices and plants are located.

Environmental communication

TEL's environmental policy requires that we foster a cooperative partnership with our wide-ranging stakeholders to reduce our environmental burden and properly respond to their expectations.

In both 2014 and 2015, the Esashi factory in Iwate invited its neighbors and local government representatives to the 6th Environmental Debriefing for the Local Community. TEL also held lectures at an environmental skill-building seminar for local businesses in Oshu City, Iwate Prefecture, and at the 2nd Environmental Business Seminar in Sendai City, Miyagi Prefecture, to enhance communication with our stakeholders and provide transparency around TEL's environmental activities.

Recycling rate and generation of incinerated and landfill waste in Japan



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). With this system, data processing centers, businesses that generate waste, and waste collection/disposal companies can share information over communications networks to streamline waste tracking.

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

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

4 Biomimicry: An approach to creating innovative technologies by emulating the characteristics of living things.

5 Red List: A list of wild plants and animals facing extinction.

Social contribution



We are committed to fulfilling our corporate responsibilities and contributing to the development of local communities.

We believe businesses have an important role in collaborating with society to achieve sustainable growth. TEL has a goal of developing a company that is engaged in various initiatives to contribute to society and collaborate with neighboring communities, helping them achieve greater prosperity and enhancing mutual trust.

Highlights



Number of social contribution programs

175



Number of student research teams that participated in a TEL-supported event

176 teams*

* The number of teams that participated in the 5th Science Intercollegiate

Our opinion on social contribution activities

Local communities are the foundation of all business operations. TEL intends to fulfill its role as a responsible corporate citizen by working to solve problems faced by the local communities, thereby nurturing a communal relationship based on solid trust and building a robust partnership. As a member of the global economic society, TEL is striving to protect the irreplaceable environment of the planet. To achieve the future prosperity of the international community and to attain a dream-inspiring society, TEL is taking a long-term approach to the universal issues affecting the world's sustainability by leveraging its technological prowess and stakeholder network.

TEL's social contribution activities are both local and global in nature, because long-term development of society can only be achieved by combining these two aspects.

Social contribution policy

- In line with our Corporate Philosophy, we set education, health and human services, the environment, and culture as the focus areas of our social contribution activities, and choose specific initiatives that best meet the requirements of each locality.
- Keeping an eye on the direction of our medium- to long-term management strategy, we operate our business in a manner that contributes to the mitigation of future risks, industry-wide sustainability challenges, and factory problems that affect the global society.
- We review the suitability of the initiatives every year, weighing such factors as their social impact, budget, and long-term contribution to business operations.

Goals and results for fiscal year 2016

Theme	Goals	Results
Social contribution activities	<ul style="list-style-type: none"> • Formulate an organization-wide policy for social contribution activities and establish standards for implementation. • Expand employee volunteer programs. 	<ul style="list-style-type: none"> • Formulated a basic policy for social contribution activities to be implemented throughout the organization in fiscal year 2017. • Provided employees with volunteering opportunities at educational events, among other events.

Toward a sustainable global society

Toward solving major issues faced by humanity

The Tohoku Forum for Creativity at Tohoku University

The Tohoku Forum for Creativity (TFC) at Tohoku University is an advanced research program that brings together Nobel Laureates and other world-renowned researchers, junior researchers, and students in a collaborative setting, with the aim of solving major problems facing humanity and society at large. Tokyo Electron has been providing comprehensive support to the TFC ever since the pilot program began in 2012. TEL is committed to developing the leading minds of the next generation, as well as to supporting the growth and prosperity of the Tohoku area where its key manufacturing bases are located.

In April 2015, the TFC organized the Spring School event to mark the beginning of the academic year. Leading researchers, including Nobel Laureate in Physics Prof. Gerard't Hooft (Utrecht University, the Netherlands), were joined by 60 students in this five-day program. The TOKYO ELECTRON House of Creativity—the central facility of the TFC—was completed in May of the same year, and became operational as a visitor research institute.

Four thematic programs were implemented in the academic year that started in April 2015, including Frontiers of Brain Science, the Effects of Technological Changes on Social Mobility and Income Distribution, Fundamental Problems in Quantum Physics, and Spintronics.

URL <http://www.tfc.tohoku.ac.jp/>



Supporting a diverse innovation platform

SUNY Polytechnic Institute

In October 2015, TEL agreed to jointly support \$262.5 million in new investments over the next five years at SUNY Poly's NanoTech* megaplex in Albany, NY.

TEL has been a major partner for the advanced R&D center at SUNY Polytechnic Institute (SUNY Poly) and the Colleges of Nanoscale Science and Engineering (CNSE) since 2003. SUNY Poly and corporate partners across New York State, and enables a diverse mixture of different kinds of talents into one place where collaboration and innovation happens.

TEL is committed to supporting the finest semiconductor R&D center in the world through contributions to New York State and to communities developing the nanotechnology-driven ecosystem.

* SUNY Poly: The State University of New York Polytechnic Institute (SUNY Poly) was formed from the merger of the SUNY College of Nanoscale Science and Engineering (CNSE) and SUNY Institute of Technology.

URL <https://sunypoly.edu/>



Working with local communities

TEL is operating from 45 locations throughout the world, including 29 locations in Japan and 15 abroad. One third of TEL employees are working at its overseas locations. As TEL's field of operations is spread across the world, gaining the support and understanding of local communities is essential to the sustainability of its business.

France

SEMI High Tech U

Tokyo Electron Europe Limited provided support to the SEMI Foundation's High Tech U education program for local high school students, in collaboration with our customers and industry peers. The employees used corporate training materials to give lectures on the semiconductor industry and nanotechnology.



Japan

Science Intercollegiate

TEL supports the Science Intercollegiate, a competitive event in which students of natural sciences present the results of their research. The event is designed to foster next-generation engineers with skills to advance Japan's expertise in science and technology in a sustainable manner. At the competition held in March 2016, 176 teams who passed the qualifying round gathered from around Japan.

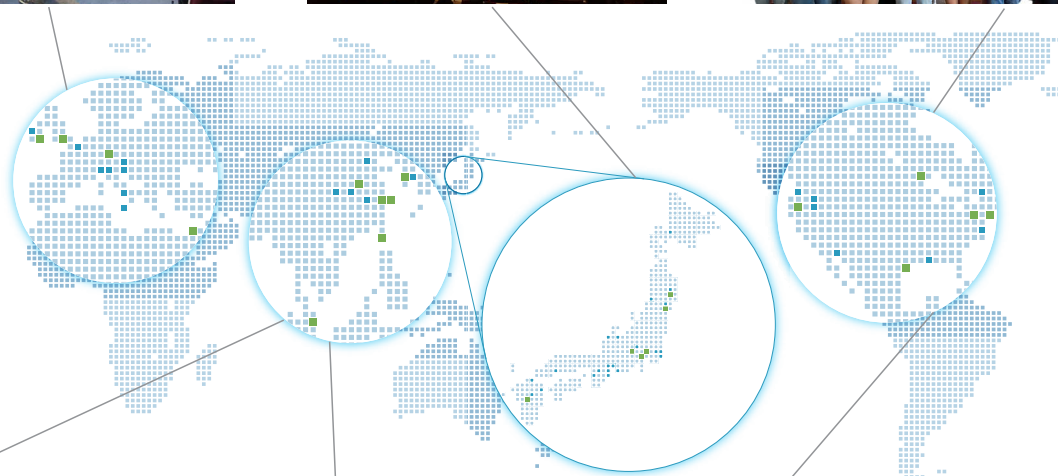


U.S.

SPARK program

Tokyo Electron America, Inc., has been partnering with Texas State University to sponsor SPARK, a program for supporting STEM¹ education by providing students with opportunities to participate in internships, job shadowing², plant tours, and mentoring.

- 1 STEM: Science, technology, engineering, and mathematics
- 2 Job shadowing: A work experience option where students learn about a job by walking through the work day as a shadow to a competent worker.



China

Zhangjiang Fun Run

The eighth Zhangjiang Fun Run event was held in September 2015 in Shanghai, with the objective of making friends, helping people, and building community. The event drew 2,250 participants from 59 local businesses. Tokyo Electron (Shanghai) Limited has been a regular supporter in this event ever since its inauguration.



Taiwan

Exchanges with local universities

Tokyo Electron Taiwan Limited has received 102 visitors from local universities so far, including students and professors. By communicating information such as an overview of TEL and briefings on semiconductors, Tokyo Electron Taiwan is promoting local understanding of the semiconductor industry as a whole.



U.S.

Partnership for Children

Partnership for Children is a non-profit organization dedicated to promoting the welfare of children through various programs including study support. The group also offers casework services and provides children with clothes and school supplies.



Corporate governance

Basic view on governance that will lead to sustainable growth for TEL

TEL declares in its medium-term vision that we are determined to become “a real global company generating high added-value and profits through innovative technologies and groundbreaking solutions with diverse integrated technologies.” Given that over 80% of our sales now come from overseas, TEL regards building a governance system as essential to becoming a real global company that achieves sustainable growth.

To that end, TEL has built a framework to maximize the use of its worldwide resources and works to incorporate a wide range of opinions. In addition to strengthening its management platform and technology base, TEL maintains a governance structure that will enable it to attain world-class profitability.

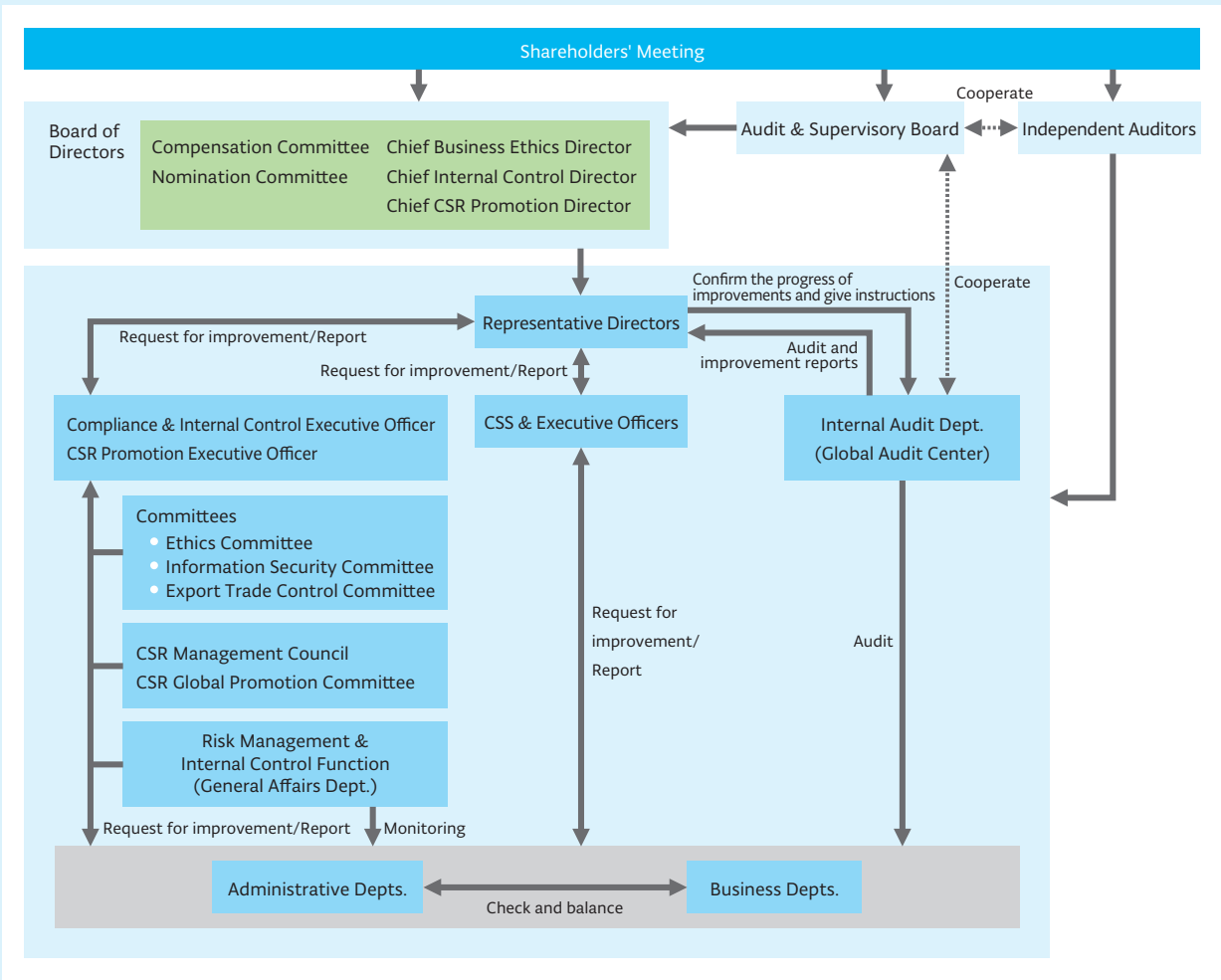
The corporate governance framework

TEL uses the Audit & Supervisory Board System, which consists of a Board of Directors and an Audit & Supervisory Board. Effective governance is achieved based on the supervision of management by the Audit & Supervisory Board.

Based on this organizational structure, TEL has also established systems that will facilitate growth-oriented governance directed at sustainable growth for TEL including the following:

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

Corporate Governance Framework, Internal Control System and Risk Management System



Roles and responsibilities of the Board of Directors

The Board of Directors works to achieve sustainable growth and increase corporate value over the medium- to long-term based on its fiduciary responsibility to shareholders. The roles and responsibilities of the Board of Directors are as follows:

- ① Establishing management strategy and vision
- ② Making major operational decisions based on strategic direction
- ③ Engaging in constructive, open-minded debate

The Board of Directors seeks the active participation of those present in discussions in order to obtain a wide-range of opinions, and supervises management and operational execution based on active debate.

The Board of Directors respects opinions even when they are minority or opposing viewpoints, including opinions voiced by outside directors; revises the conditions for implementation or the content of proposals as necessary; and engages in extensive debate with the goal of reaching decisions based on consensus. However, emphasis is placed on making necessary decisions quickly to avoid missing opportunities.

In the TEL Board of Directors meetings, proactive, frank opinions are indeed continually presented, not only by internal Corporate Directors, but also by independent directors and Audit & Supervisory Board members, enabling active debates thereby.

View on overall balance of knowledge, experience, and skills in the Board of Directors, its diversity

Policy on election of Executive Directors

Executive Directors of TEL are required to have superior executional abilities underpinned by experience, insight, and a track record in management, high sensitivity to all possible risks, being able to properly analyze and judge matters, and frankly state the opinion that they believe to be correct during debates.

Moreover, in electing Executive Directors, consideration is given to achieving a balance of Corporate Directors who are well-versed in each division of TEL, including:

- Sales and Service
- Manufacturing
- R&D
- Corporate Administration

and other divisions, to the extent possible in order to ensure constructive debate in Board of Directors meetings born out of a broad range of backgrounds and knowledge. The current Executive Directors have been elected in a manner that has achieved such balance.

The role of Executive Directors does not end with referring and explaining proposals as the representative of each division. They also contribute to active debate, proper decision-making, and supervision of execution through objective, constructive opinions coming from different perspectives of each Corporate Director.

Policy on election of Independent Directors and Audit & Supervisory Board Members

By stating their unreserved opinions from an independent perspective, independent directors and outside Audit & Supervisory Board members guide Board of Directors debates in the proper direction for success in global competition that does not follow the same line of discussion proposed by internal Corporate Directors.

To achieve our previously stated goals, independent directors and outside Audit & Supervisory Board members shall consist of people who offer a good balance of the following qualities:

- Knowledge of global business
- Broad insight into related industries
- An extensive network of personal contacts
- Objectivity from social, capital market, and other perspectives
- Knowledge of finance and accounting
- Broad legal knowledge

The reason for Appointing the CEO, individual Corporate Directors and Audit & Supervisory Board members; status of concurrent duties at other listed companies, are found in the Appendix of the following document:

URL http://www.tel.com/ir/policy/cg/document/index_02.pdf

Corporate governance

Size of the Board of Directors, number of Independent Directors and criteria for independence

TEL considers it essential to maintain a Board of Directors with the appropriate size to ensure high quality, active debate and the diversity expected of both executive directors and independent directors. The number of Corporate Directors shall therefore be the appropriate number for the operating environment at the time, considering a good balance in terms of knowledge, experience, and skills. There is a maximum of 18 directors established in the Articles of Incorporation.

The current Board of Directors consists of 11 Corporate Directors, and TEL believes this to be the appropriate, well-balanced size at the present time.

Number of Independent Directors and criteria for independence

TEL regards the active expression of opinions, not only by independent directors, but also by Audit & Supervisory Board members, as the cornerstone that supports the sound decision-making of the Board of Directors. Currently, 5 of the 16 participants in the Board of Directors meetings, including the Audit & Supervisory Board members, are outside members, consisting of two independent directors and three outside Audit & Supervisory Board members. TEL believes that 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. TEL actively considers candidates equipped with the knowledge and character that TEL thinks will contribute to sustainable growth for TEL for independent directors and other outside members.

TEL also ensures the independence of independent directors and independent Audit & Supervisory Board members through separately specified independence requirements for outside directors and outside Audit & Supervisory Board members, in addition to the requirements under the Japanese Companies Act.

Details on independence requirements for outside director and outside Audit & Supervisory Board members can be found in the following document:

URL http://www.tel.com/ir/policy/cg/document/index_03.pdf

Nomination of Corporate Directors and the CEO

TEL has established a Nomination Committee to ensure fairness and efficiency in management. No Representative Directors, including the CEO, is a member of the Nomination Committee. The authority to propose election or dismissal of the CEO or Corporate Directors is entrusted to a Nomination Committee member who is not a Representative Director.

Ensuring the independence of the Nomination Committee

The Nomination Committee shall consist of three or more Corporate Directors or Audit & Supervisory Board members. In order to ensure the independence of those members, Representative Directors may not be elected to the Nomination Committee. Moreover, the Nomination Committee recommends Nomination Committee members for the next period and the Board of Directors elects the members based on those recommendations. This method achieves a high degree of independence and fairness in the election of candidates and ensures the authority of the CEO and other Representative Directors does not extend to the management of the Nomination Committee.

The term of Nomination Committee members shall be one year. Re-election up to a maximum of four years is permitted.

Ensuring fairness in evaluation

TEL takes the following steps to ensure fair and highly transparent evaluation of the executive management, including the CEO.

- ① Executive Directors bear the responsibility of achieving performance goals for the division where they are in charge based on the budget and Medium-Term Management Plan. The degree to which that is achieved is an important factor in personnel evaluations for performance-linked compensation.
- ② The formula for calculating the performance-linked compensation of the CEO is determined by the Board of Directors, based on the proposal of the Compensation Committee. It is decided fairly and in a highly transparent manner.
- ③ In nominating candidates for Executive Director, the Nomination Committee will evaluate the appropriateness of the candidate based on past performance, including an evaluation of performance on assigned duties, and considering his or her personality, including the character and dignity, as a manager. They then determine whether or not he or she is capable of shouldering those responsibilities.

Compensation

Policy on compensation

TEL aims to strengthen its global competitiveness and increase management transparency by adopting a director and executive officer compensation system that is closely linked to performance and shareholder value. The compensation of directors and executive officers comprises a fixed monthly wage and an annual performance-linked bonus.

Role of the Compensation Committee

The Compensation Committee, which comprises three or more directors, including at least one outside director, performs an analysis of industry wage levels inside and outside of Japan, accounting for both monetary and non-monetary aspects of the total compensation package. Based on this comprehensive analysis, the committee proposes a policy and system for director compensation to the Board of Directors. The proposal includes specific amounts for individual compensation, including the CEO's bonus.

Formula for calculating compensation

In order to better link factors that increase corporate and shareholder value to compensation, TEL has designated the actual net income attributable to owners of the parent company and ROE (Return on Equity) for the current period as the main calculation benchmarks in the performance-linked compensation system for the CEO and other Corporate Directors. These are adjusted, as necessary, for extraordinary income/losses and other special factors.

In principle, performance-linked compensation consists of monetary compensation and share-based compensation. The composition is roughly 1:1 for Corporate Directors, and single year performance is appropriately reflected in the performance-linked compensation of the CEO and other Corporate Directors. Share-based compensation is awarded in the form of stock options with the exercise price set at one yen per share, and the restriction that they may not be exercised for three years from the date of allotment.

Evaluating the effectiveness of the Board of Directors

Based on an evaluation survey filled out by the Board of Directors and Audit & Supervisory Board members, the Board of Directors discusses, analyzes, and evaluates its own effectiveness, and discloses a summary of the results from the end of the current fiscal year.

URL http://www.tel.com/news/2016/0512_006.htm

On transactions among related parties

TEL requires Corporate Directors or Audit & Supervisory Board members to obtain the approval of the board when engaging in transactions with TEL or transactions that are in conflict with the interests of TEL and the Corporate Directors or Audit & Supervisory Board Members. This includes engagement in competing business with TEL. Moreover, after such transactions take place, a report must be presented to the board regarding material matters concerning such transactions.

In addition, irrespective of whether a transaction is between a Corporate Director or Audit & Supervisory Board member, or a relative of them and TEL, TEL undertakes regular annual investigations.

Furthermore, in regard to transactions between TEL and shareholders, there are no major shareholders (defined as a shareholder with at least 10% of voting rights) in TEL. If a major shareholder emerges, TEL will undertake procedures to ensure appropriateness of transactions according to the previously stated policies.

Composition and roles of the Audit & Supervisory Board

Composition of the Audit & Supervisory Board

The Audit & Supervisory Board currently consists of five members and includes three outside Audit & Supervisory Board members. Three members, including one outside member, are full-time. The full-time Audit & Supervisory Board members collect information through onsite surveys, and the board maintains appropriate coordination with the Internal Audit Department and the independent auditors as part of a structure that enables Audit & Supervisory Board members to obtain all information necessary for audits.

Moreover, the composition of Audit & Supervisory Board members provides a good balance of knowledge required for operational audits and accounting audits, including financial and accounting knowledge, legal knowledge, and audit experience at other companies. TEL thus believes its Audit & Supervisory Board members are able to perform the auditing functions effectively.

Internal control and risk management

Basic stance

In order to enhance the Tokyo Electron Group's corporate value and remain accountable for our actions to our stakeholders, we are making efforts to strengthen effective internal control. This involves implementing practical measures that are in line with the Fundamental Policies concerning Internal Controls within the Tokyo Electron Group, set out by Tokyo Electron's Board of Directors. We are also annually evaluating our internal control over financial reporting based on the Financial Instruments and Exchange Act of Japan.

Risk management system

To more effectively strengthen the internal control and risk management systems of the entire Group, Tokyo Electron has established a dedicated risk management and internal control function within the General Affairs Department of the corporate headquarters. This function manages and reduces risks through appropriate measures, such as by analyzing the risks that could affect the Group, and instructing responsible departments to conduct self-assessments of major identified risks. The function also regularly reports the status of risk management activities to the Audit & Supervisory Board Members and the Board of Directors.

In fiscal year 2016, the Group thoroughly reevaluated the material risks surrounding its operating environment in order to improve the effectiveness of its risk management. Based on this reevaluation, the Group is redefining material risks and clarifying each risk owner to enhance the efficacy of its risk management framework.

Auditing by internal audit department

The Global Audit Center of the corporate headquarters is the 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.

Business continuity management

Since 2012, the Group has been improving its Business Continuity Plan (BCP) for large-scale earthquakes. The BCP is being updated at the headquarters, local offices and plants so that it will work effectively in the event of a disaster, facilitating early recovery and alternate production.

In fiscal year 2016, the Group focused on revising the manuals and plans, as well as on implementing BCP drills and employee education.

In addition, emphasis has been placed on improving early emergency response with top priority given to securing employee safety, including stockpiling emergency supplies (including food and drinking water), and reinforcing essential infrastructure.

As a result of these preparedness initiatives, we were able to smoothly implement the BCP to respond quickly to the Kumamoto Earthquake in April 2016.

Information security management

To ensure appropriate management and safe and effective use of information assets, the Group has established a framework for preventing information leakage under the Tokyo Electron Group Information Security Policy and the Regulation for Management of Technical and Business Information. These rules have been disseminated globally throughout the Group companies and are updated whenever necessary.

In order to strengthen information security, the Group is enhancing training and education for all of its executives and employees worldwide. These programs ensure that they can protect technical and business data and abide by the IT security rules.

Additionally, we have established a system for reporting both actual and potential cases (incidents) of information leakage. Such reports are critical in making quick responses, and their analysis can offer valuable insights into improving Group-wide measures to prevent leakage.

Compliance

Basic stance

Stakeholder trust is the cornerstone of business activities. In order to maintain trust, it is necessary to continuously act in rigorous conformity to business ethics and compliance. In line with the Fundamental Policies concerning Internal Controls within the Tokyo Electron Group, all Group executives and employees are required to maintain high standards of ethics and to act with a clear awareness of compliance.

Theme	Goals for fiscal year 2016	Results for fiscal year 2016
Ethics and compliance management	Rework and reinforce the management system. <ul style="list-style-type: none"> Review the current management system. Formulate an improvement plan based on the review. 	<ul style="list-style-type: none"> Conducted a review of the current management system, and enhanced cooperation between the Ethics Committee and the compliance department.
TEL's Code of Ethics	Make the Code of Ethics conform more to social changes. <ul style="list-style-type: none"> Check conformity with the EICC Code of Conduct. Review TEL's Code of Ethics. 	<ul style="list-style-type: none"> Checked conformity with the EICC Code of Conduct, and began a partial revision of TEL's Code of Ethics to increase conformity with the EICC Code of Conduct.

Business ethics

In 1998, Tokyo Electron formulated the Code of Ethics of the Tokyo Electron Group to establish uniform standards to govern all of its global business activities. In the same year, TEL appointed a Chief Business Ethics Director and established the Ethics Committee, which is responsible for promoting business ethics awareness throughout the Tokyo Electron Group. The Ethics Committee comprises the Chief Business Ethics Director, the Ethics Committee Chairman, and presidents of major Group companies in and outside Japan. The members meet semiannually, report on ethics related issues facing each company, and discuss measures to further improve ethical behavior and compliance.

The Code of Ethics is reviewed in response to changes in the expectations of society. In January 2015, an anti-corruption statement was added to its introduction based on Principle 10 of the UN Global Compact, which concerns working against corruption including extortion and bribery. In fiscal 2016, the Group reviewed its Code of Ethics in response to the Code of Conduct of the EICC, an electronic industry CSR consortium that the Group joined in June 2015.

The Tokyo Electron Group's Code of Ethics and its Q&A section are published in Japanese, English, Korean and Chinese and disclosed on the intranet to enable all Group executives and employees, including those overseas, to view them at any time. The Code of Ethics is also publicly accessible from the corporate website.

URL http://www.tel.com/environment/corp_governance/compliance/ethical.htm

Compliance system

Tokyo Electron has appointed a Compliance & Internal Control Executive Officer from among its executive officers to raise awareness of compliance across the Group and further improve Group-wide compliance. TEL has also drawn up the 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 Tokyo Electron 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 Group's e-learning system, we provide standard 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 this training. In addition, other web-based programs tailored to specific positions and job roles are also available, including those on insider trading and the Social Security and Tax Number System.

We also have a quiz-based business ethics compliance education course 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 year 2016 for Corporate Directors and domestic Group company presidents on the subjects of compliance and internal control.

Internal reporting system

The Tokyo Electron 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 principles. 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 principles of ethics in fiscal year 2016 that could have had a material impact on the Group's business or local communities.



Takatoshi Yamamoto

Outside Audit & Supervisory Board Member,
Tokyo Electron Limited

Comments on Tokyo Electron Sustainability Report 2016

Company stakeholders expect business to thrive and grow with society in a sustainable manner. Corporations are nowadays requested to improve medium- to long-term corporate value by leveraging their business activities and company resources to contribute to the resolution of current social issues. To attain these goals, we must generate new value through a cycle of CSR activities that builds on itself and becomes even more competitive in the global market. The nature of CSR programs is shifting these days, from a passive set of activities to a proactive program based on societal needs. The thinking behind this approach is that by seamlessly integrating business operations with CSR, social contribution and profitability can be achieved simultaneously.

To emphasize TEL's new focus on sustainable development and growth that is aligned with society, the title of this report has been changed from "Environmental and Social Report" to "Sustainability Report." The report includes a description of the medium-term management plan formulated under the leadership of our new management team. The plan outlines TEL's business goals up to fiscal year 2020. The report also clarifies the relationship between the medium-term management plan and various social issues surrounding our business. It lists a revised set of key issues and provides a simple overview of the goals and activities of each department.

TEL chose five key issues for this fiscal year: "Product competitiveness", "Customer responsiveness", "Earnings power", "Maximizing dreams and drive", and "Establishing sustainable operations." The first three of these come from the medium-term management plan. A total of 15 themes and 16 goals have been established under these key issues, and we have been pursuing these goals. The themes and goals that fall under "Establishing sustainable operations" are especially important, as they include corporate governance, compliance and ethics, safety, environmental management, and supply chain management—items that are essential to the enhancement of corporate value. We hope to share our progress on these objectives with all employees and ultimately to achieve the goals through our united efforts.

Our business operations and CSR initiatives cannot be successful without strong stakeholder communication and engagement based on mutual trust. As we put our corporate philosophy into practice, we are aware how essential CSR is for enhancing our corporate value in both financial and non-financial terms. Just as we must engage in investor relations (IR) activities in the capital markets, we must keep our shareholders and other stakeholders well informed about both our basic position with CSR and the specific activities we are pursuing. This includes our CSR policy, the internal promotion system, our CSR goals, and company results. We believe such communication will give the stakeholders a deeper understanding of our CSR management overall.

Main awards and recognition received in fiscal year 2016

Category	Award received * Awards received in fiscal year 2017	Sponsor	Recipient*
Business partner	Excellent Service In F10 Expansion	Taiwan Semiconductor Manufacturing Co., Ltd.	TEL
	BEST PARTNER OF THE YEAR	SK hynix Inc.	TEL
	TowerJazz's 2015 "Most Reliable Tool Set" Supplier of the Year Award	Tower Semiconductor Ltd. (TowerJazz)	TEL
	2015 Partner Award	Fuji Electric Co., Ltd.	TEL
	Best in class	SanDisk Corporation	TEL
	Outstanding Support Award	WIN Semiconductors Corporation	TEL
	2015 SCQI Award	Intel Corporation	TEL
	Partnership Award	Yokkaichi Operations, Semiconductor & Storage Products Company, Toshiba Corporation	TEL
	Best Supplier Award 2015	Skyworks Panasonic Filter Solutions Japan Co., Ltd.	TEL
	Appreciation Award*	United Microelectronics Corporation	TET
	Supplier Excellence Award*	Texas Instruments Incorporated	TEL
	AUO Global Partner Summit 2016 Award*	AU Optonics Corporation	TEL
	Best Supplier Award	LG Display Co., Ltd.	TEL
	Special Contribution Award*	Xiamen Tianma Micro-electronics Co., Ltd.	TEL
Product	Semiconductor of the Year Excellence Award in the semiconductor manufacturing equipment category EXIM™ sputtering system for next-generation semiconductors	Sangyo Times, Inc.	TEL
Environment/ safety	Minnesota Safety Council Governor's Safety Award*	Minnesota Safety Council	TEF
	CDP Disclosure Score: 94 CDP Performance Score: B	CDP	TEL
	The 19th Nikkei Environmental Management Survey: Ranked 23rd	Nikkei Inc.	TEL
Communication/ society	Certificate of appreciation: For supporting the Tohoku Forum for Creativity and establishing the TOKYO ELECTRON House of Creativity	Tohoku University	TEL
	FTSE4 Good Global Index	FTSE	TEL
	The Sustainability Yearbook 2016 Yearbook Member and Industry Mover	RobecoSAM AG	TEL
	MSCI ACWI ESG Index and MSCI World ESG Index	MSCI	TEL
	2015 Internet IR Excellence Award	Daiwa Investor Relations Co., Ltd.	TEL

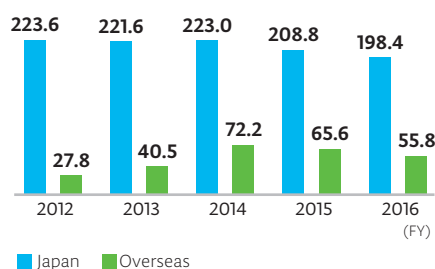
* TEL: Tokyo Electron Limited / TET: Tokyo Electron Taiwan Limited / TEF: TEL FSI, Inc.

Performance summary (Environment)

Energy consumption/generation

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

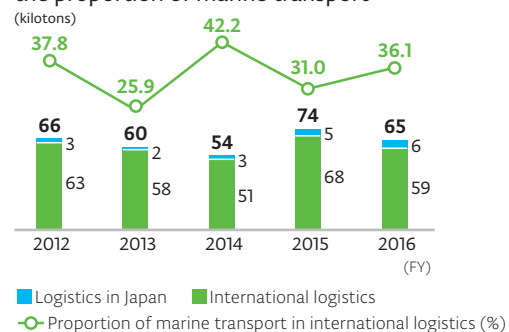
Electricity consumption (Million kWh)



Environmental impact of logistics

	Scope	FY2014	FY2015	FY2016
CO ₂ emissions from logistics (tons)	Japan	3,099	5,348	5,901
	Overseas	51,131	68,241	58,735
	Total	54,230	73,589	64,636
Proportion of marine transport in international logistics (%)		42.2	31.0	36.1

CO₂ emissions from logistics and the proportion of marine transport



Greenhouse gas consumption/emissions

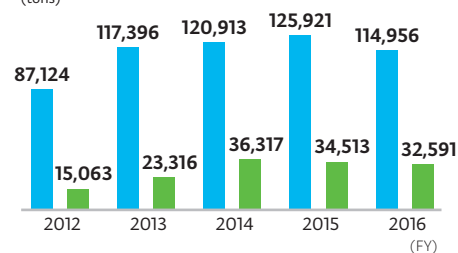
	Scope	FY2014	FY2015	FY2016
CO ₂ emissions from energy consumption (tons)	Japan	120,913	125,921	114,956
	Overseas	36,317	34,513	32,591
	Total	157,230	160,434	147,547
Metric for CO ₂ emissions from energy consumption (CO ₂ emissions/sales) (tons/billion yen)		2.57	2.61	2.22
Scope 1 CO ₂ emissions ¹ (tons)	Japan	7,550	6,620	5,576
	Overseas	3,601	3,066	2,242
	Total	11,151	9,686	7,818
Scope 2 CO ₂ emissions ² (tons)	Japan	113,363	119,301	109,380
	Overseas	32,716	31,447	30,349
	Total	146,079	150,748	139,729
Scope 3 CO ₂ emissions ³ (tons)		3,650,734	3,566,479	3,491,111
Non-energy-derived greenhouse gas emissions (tons)	Japan	20,794	21,795	32,848
HFCs (tons)	Japan	2,610	1,501	2,452
PFCs (tons)	Japan	7,416	5,784	7,784
SF6 (tons)	Japan	10,755	14,499	17,095
Other (tons)	Japan	13	11	5,517

- 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

Resource consumption

	Scope	FY2014	FY2015	FY2016
Water consumption (thousand m ³)	Japan	1,058	1,043	896
	Groundwater	297	327	226
	Tap water	471	416	368
	Industrial water	290	300	302
	Overseas use	612	503	180
	Total	1,670	1,546	1,076
Use of copier paper (tons)	Japan	116	162	128

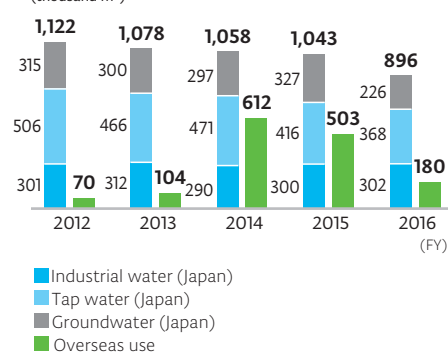
CO₂ emissions from energy consumption (tons)



■ Japan ■ Overseas

CO₂ emissions in fiscal year 2012 totaled 87,124 tons in Japan, from which 50,000 tons was deducted through the use of a domestic clean development mechanism (which allows large corporations to receive credits for CO₂ emissions reductions made by small and medium-sized businesses in exchange for financial and technological support for reducing CO₂ emissions).

Water consumption (thousand m³)

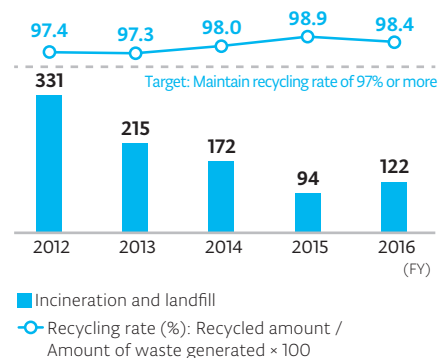


Performance summary (Environment)

Amount of waste generated

	Scope	FY2014	FY2015	FY2016
Amount of waste generated (tons)	Japan	8,780	8,858	7,721
	Overseas	1,185	1,206	663
	Total	9,965	10,064	8,384
Amount of specially controlled industrial waste generated in Japan (tons)		2,627	2,842	2,125
Recycled amount (tons)	Japan	8,608	8,764	7,599
	Overseas	813	1,064	583
	Total	9,421	9,828	8,182
Amount incinerated or put into landfill (tons)	Japan	172	94	122
	Overseas	372	142	80
	Total	544	236	202

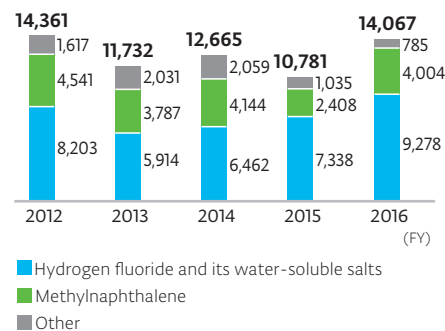
Recycling rate and generation of incinerated and landfill waste in Japan (tons)



Chemical substances consumption/emissions

	Scope	FY2014	FY2015	FY2016
Volume of PRTR Class I designated chemical substances handled (kg)	Japan	12,665	10,781	14,067
Hydrogen fluoride and its water-soluble salts (kg)	Japan	6,462	7,338	9,278
Methylnaphthalene (kg)	Japan	4,144	2,408	4,004
Other (kg)	Japan	2,059	1,035	785
Atmospheric release (kg)	Japan	21	12	21
Amount transported as waste (kg)	Japan	8,499	8,254	9,941
Amount discharged in sewage (kg)	Japan	1	114	101
Consumption (kg)	Japan	4,144	2,401	4,004
NOx emissions (tons)	Japan	9.7	12	7.5
SOx emissions (tons)	Japan	2.8	2.7	2.2

Volume of PRTR Class I designated chemical substances handled in Japan (kg)



Environmental management/biodiversity

	Scope	FY2014	FY2015	FY2016
Number of ISO 14001-certified companies	Japan	7	4	4
	Overseas	3	4	3
	Total	10	8	7
Number of ecosystem tours	Japan	16	13	15
Number of ecosystem tour participants	Japan	42	69	281

Compliance

	Scope	FY2014	FY2015	FY2016
Number of breaches of environmental laws and regulations	Group	0	0	0
Amount of fines on legal breaches (yen)	Group	0	0	0

Other

	Scope	FY2014	FY2015	FY2016
Total product shipment (tons)	Japan	16,331	13,596	17,342

Performance summary (Social)

Employees and workplace

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

			FY2014	FY2015	FY2016
Composition of employees	Regular employees	Men	6,262	6,165	6,075
		Women	1,009	1,001	985
		Total	7,271	7,166	7,060
	Non-regular employees		1,570	1,455	1,677
Number of new graduates hired	Men		135	65	21
	Women		26	8	3
	Total		161	73	24
	Percentage of women		16	11	13
Percentage of employees with special needs	TEL (unconsolidated)		1.80	2.00	1.96
	Group companies		1.90	1.94	1.98
Number and percentage of women among managers	Group companies		30/1.2	32/1.3	39/1.5
Employee retention	Retention after three years of joining TEL (average in recent five years) (%)		94.3	94.3	93.7
	Average service years	Men	15 yrs. 9 mos.	16 yrs. 6 mos.	17 yrs. 2 mos.
		Women	14 yrs. 3 mos.	15 yrs. 3 mos.	16 yrs.
		Overall	15 yrs. 7 mos.	16 yrs. 4 mos.	17 yrs.
	Turnover (%)	Men	1.4	2.5	1.5
		Women	3.3	3.4	3.9
		Overall	1.6	2.7	1.8
	Use of annual paid leave (%)		59.6	61.8	62.6
Child care support system	Number of those who took child care leave		70	52	42
	Percentage of those among the eligible who actually took child care leave		95	95	93
	Number of those who returned to work after child care leave		53	46	46
	Percentage of those who returned to work after child care leave		93	88	85
	Number of those who took paternity leave		211	192	172
	Number of those who used the shorter working hour system	Men	8	11	13
		Women	151	172	175
	Number of those who took child care leave to care for a sick/injured child	Men	240	246	245
		Women	195	214	208
	Number of those who took child care support leave	Men	17	24	15
		Women	75	72	88
Nursing care support	Number of those who took extended nursing care leave	Men	0	0	0
		Women	2	2	0
	Number of those who took short nursing care leave	Men	13	11	10
		Women	9	9	21
	Number of those who used the shorter working hour system for nursing care	Men	1	1	0
		Women	0	0	0
Special paid leave system	Number of those who took refreshment leave	Men	663	1,091	926
		Women	109	194	119
Retirees who used reemployment system		Men	68	74	98
		Women	0	0	3
Users of second career support system		Men	68	59	43
		Women	14	10	6

Performance summary (Social)

Safety

		FY2014	FY2015	FY2016
Framework	Number of breaches of regulations and self-imposed restrictions on health and safety that occurred during product/service lifecycle	0	0	0
Employee safety	Percentage of employees who received training on health and safety standards in the past 2 years	Percentage of employees who received training or refresher training on basic safety		100
		Percentage of employees who received training or refresher training on advanced safety		100
	LTIR (lost time incident rate) for the past 3 years (%)	0.67	0.61	0.56
	TCIR (%)	0.37	0.24	0.21

Quality

		FY2014	FY2015	FY2016
Framework	Amount of significant fines for breaches of laws and regulations on provision/use of products and services (yen)	0	0	0
Customer satisfaction	Customer satisfaction rates for the past 4 years and latest target (%)	79	80	87
	Number of substantiated complaints regarding customer privacy infringement and loss of customer data	0	0	0

Procurement

			FY2014	FY2015	FY2016
Supply chain management	Improvement of procurement CSR (%)	Rate of improvement after supply chain CSR assessment	-	25	34
		Rate of improvement after supply chain BCP assessment	-	41	27
		Rate of improvement after green procurement survey	-	46	-*
	Conflict minerals survey	Number of identified CFSP-certified smelters	-	117	204
Local operations	Percentage of spending on local suppliers at critical business bases		99	99	99

Social contribution

* Integrated with supply chain CSR assessment.

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

Compliance

		FY2014	FY2015	FY2016
Enforcement of compliance	Percentage of employees who have received web-based training on business ethics and compliance	100	99.7	98.4
	Percentage of employees who have consented to the information security agreement	100	100	99.9

Innovation

		FY2014	FY2015	FY2016
Number of active issued patents	Japan	5,227	5,288	5,172
	U.S.	4,299	4,326	4,361
	Europe	439	354	241
	Korea	2,875	2,847	2,784
	Taiwan	1,889	1,983	2,131
	China	1,647	1,623	1,611
	Total	16,376	16,421	16,300

		FY2013	FY2014	FY2015*
Global patent application rate (%)		70.3	69.5	68.0

* Calendar year when patents were filed

		FY2013	FY2014	FY2015*
Patent application success rate (%)	Japan	78.0	74.0	78.0
	U.S.	66.8	62.8	71.2

* Calendar year when patents were granted

Corporate profile

(as of April 1, 2016)

Company name: Tokyo Electron Limited
Address: Akasaka Biz Tower,
 5-3-1 Akasaka, 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: 1,441

Number of Group employees: 10,657

Number of locations:

In Japan: 8 companies at 29 locations

Outside Japan: 30 companies at 45 locations in 15 countries and regions

Worldwide total: 38 companies at 74 locations in 16 countries and regions

Main products

Semiconductor production equipment



Coater/Developers
CLEAN TRACK™
LITHIUS Pro™ Z



Plasma Etch System
Tactras™



Atomic Layer
 Deposition System
NT333™



Thermal Processing
 System
TELINDY PLUS™



Single Wafer
 Deposition System
Triase™



Single Wafer Cleaning
 System
CELLESTA™

Semiconductor production equipment



Wafer Prober
Precio™ XL



Gas Chemical Etch System
Certas LEAGA™



Electrochemical
 Deposition System
Stratus™

FPD production equipment



FPD Etch/Ash System
Impressio™

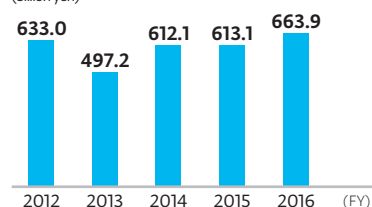


Inkjet Printing System for
 manufacturing OLED panels
Elius™

Financial data

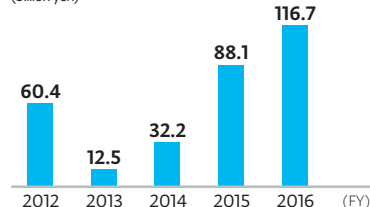
Consolidated net sales

(billion yen)



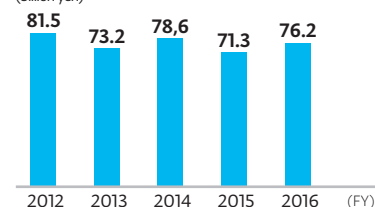
Consolidated operating income

(billion yen)

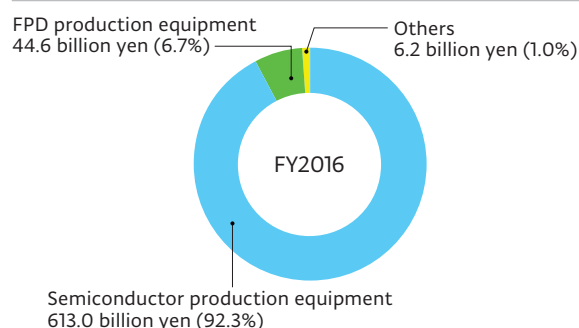


R&D expenses

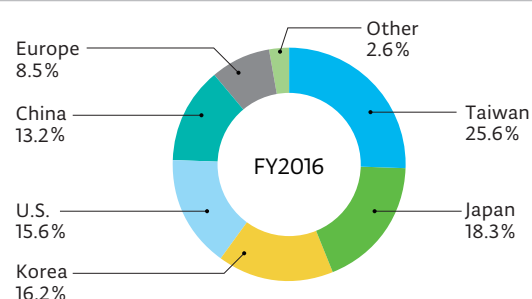
(billion yen)



Net sales by division (consolidated)



Composition of sales by region (consolidated)



Assets	2015	2016
Total	876.1	793.3 (billion yen)
Cash and cash equivalents	317.6	236.6
Trade notes and accounts receivables	110.8	116.5
Inventories	175.5	195.0
Other current assets	66.7	69.1
Tangible fixed assets	106.8	96.3
Intangible fixed assets	27.5	17.6
Investments and other assets	70.8	62.0

Liabilities and net assets	2015	2016
Total	876.1	793.3 (billion yen)
Net assets	641.1	564.2
Other liabilities	234.9	229.1

(As of March 31, each year)

Note: Figures are rounded down to the nearest 100 million.

solaé art gallery project

The solaé art gallery project uses part of the “solaé” cafeteria at TEL headquarters to provide a venue for rising new artists and display their work. The highly creative exhibits, which integrate art, technology, and science, are designed to inspire TEL employees who come into contact with them. This crossing of paths of aspiring artists, supportive stakeholders, and TEL employees has the potential to create value in new ways for TEL.

About the cover art

“reflectwo (green)” by Haruka Kojin

Haruka Kojin is also an active member of the modern artist group “Me” (“Eye” in Japanese).

